PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, February 15th, 1940, at 2.30 p.m.

The President, SIR ROBERT ROBINSON, M.A., D.Sc., LL.D., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of January 18th, 1940, were taken as read, and were confirmed and signed.

The PRESIDENT referred to the loss sustained by the Society, through death, of Sir Gilbert Morgan, Past-President, on February 1st, 1940, and stated that the Council had passed the following resolution:

> The President, Officers, and Council of the Chemical Society learned with profound sorrow at their meeting on the 15th February, 1940, of the death on the 1st February of their distinguished Past-President, Sir Gilbert Morgan.
>
> They desire to express their appreciation of the eminent services he has rendered to the Science of Chemistry by his outstanding researches in so many fields of pure and applied Chemistry. A man with almost unlimited capacity for work and possessing the gift of inspiring those who worked with him, he never spared himself in his efforts to further the progress of Chemistry.
>
> The Council record with gratitude the signal services he rendered to the Chemical Society since he was elected a Fellow in February 1898. He edited the *Journal* for several years, and served on the Council for periods amounting in all to 16 years, holding the offices of Secretary, Vice-President, and President. His genial presence and wise counsel will be sorely missed by his colleagues on the Council of the Chemical Society and by the members of the Bureau of Chemical and Physiological Abstracts, of which he was Chairman.
>
> The Council desire to convey their deep sympathy to Lady Morgan in her irreparable loss.

The company present stood while the resolution was read.

The PRESIDENT also referred to the loss sustained by the Society, through death, of the following Fellows:

	Elected.	Died.
William F. Mawer	1893	January 31st.
Frank Moul	1886	February 8th.
Benjamin D. Porritt	1906	January 28th.
Frank T. Shutt	1886	January 5th.

The following announcement was made:

NOMINATIONS FOR VACANT PLACES ON THE COUNCIL.

The following is a list of the nominations for the new Council:

Honorary Secretary: (*One vacancy.*) *PROF. W. WARDLAW.

Vice-Presidents, who have filled the office of President. (*Two vacancies.*)

*PROF. N. V. SIDGWICK. *PROF. W. P. WYNNE.

Vice-Presidents, who have not filled the office of President. (*Two vacancies.*)

*PROF. C. N. HINSHELWOOD. PROF. J. L. SIMONSEN.

Elected Ordinary Members of Council :

Constituency I. S.E. England. (*Four vacancies.*)

DR. D. H. HEY.	(London.)
DR. F. G. MANN.	(Cambridge.)
DR. E. A. MOELWYN-HUGHES.	(Cambridge.)
DR. S. G. P. PLANT.	(Oxford.)
DR. G. S. WHITBY.	(London.)

Constituency III. N.W. England, N. Wales and Isle of Man. (*One vacancy.*)

PROF. T. P. HILDITCH. (Liverpool.)

* Nominated by Council.

In accordance with the Bye-Laws, the Officer, Vice-Presidents, and Elected Ordinary Member of Council for Constituency III who have been nominated will be declared elected at the Annual General Meeting.

As the number of nominations received for Elected Ordinary Members of Council in Constituency I exceeds the number of vacancies it will be necessary to hold a ballot, the result of which will also be declared at the Annual General Meeting to be held in the Society's Rooms at Burlington House, Piccadilly, on Thursday, April 4th, 1940.

APPOINTMENT OF SCRUTATORS.

Mr. A. King and Dr. D. J. G. Ives were appointed Scrutators to assist in the counting of votes recorded for the election of Elected Ordinary Members of Council in Constituency I.

URBAIN MEMORIAL LECTURE.

After a brief introduction, the PRESIDENT called on Dr. A. S. Russell to deliver the Urbain Memorial Lecture.

At the conclusion of the lecture, a vote of thanks to the Lecturer was proposed by Professor A. C. G. Egerton, seconded by Professor C. S. Gibson, and carried with acclamation.

MEETINGS OUTSIDE LONDON

LECTURE AT EDINBURGH, JANUARY 22nd.

A joint meeting of the Society with the Edinburgh and East of Scotland sections of the Society of Chemical Industry and the Institute of Chemistry was held at 7 p.m. in the North British Station Hotel, Edinburgh, on January 22nd, with Dr. E. G. V. Percival in the Chair. Dr. W. T. Astbury, M.A., Sc.D., F.Inst.P. gave a fascinating lecture on "Proteins under the *X*-rays" illustrated by photographs and models. The lecture was very well attended, and in the subsequent discussion the following took part: Dr. C. A. Beevers, Dr. E. B. Ludlam, Dr. P. Eggleton, Dr. W. O. Kermack, Dr. T. R. Bolam, Mr. C. Elliot Dodds, Dr. A. M. Smith, Professor H. J. Muller, Major Robert Bruce and others. A vote of thanks to the Lecturer, proposed by Dr. Beevers, was carried with acclamation.

LECTURE AT SWANSEA, FEBRUARY 9th.

A meeting of the Society was held jointly with the University College of Swansea Chemical Society at 6.30 p.m. on Friday, February 9th, in the Royal Institution of South Wales, Swansea. In the absence of the local representative the Chair was taken by Sir Robert Robertson, K.B.E., F.R.S. Professor G. M. Bennett, M.A., Sc.D., delivered a lecture on "Liquid Crystals." After describing the mesomorphic nature of liquid crystals, the Lecturer traced the historical development of their study and described the characteristic properties of the three chief types of liquid crystal.

Professor Bennett then gave a fascinating demonstration of the formation and behaviour of liquid crystals. Using projection in polarised light, he showed examples of simple

polymorphism, of the cholesteryl type of liquid crystal, and of substances giving either the nematic or smectic type. Finally, using *p*-alkoxy-benzoic acids he exemplified compounds which give not only both nematic and smectic liquid crystals, but also polymorphic solid forms.

The lecture and demonstrations were warmly applauded, and a hearty vote of thanks, accorded to Professor Bennett on the proposition of Mr. E. E. Ayling, seconded on behalf of the College Chemical Society by Mr. T. I. Watkins, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

CONGRATULATIONS.

The PRESIDENT has conveyed the congratulations of the Council to Mr. S. H. Collins, Mr. J. B. Coppock, Mr. T. S. Dymond, Sir Philip J. Hartog, Dr. E. P. Perman, and Mr. E. Russell, who completed 50 years of Fellowship on February 6th.

LOCAL REPRESENTATIVE.

The Council have accepted with regret the resignation of Dr. A. B. Crawford from the office of Local Representative for Glasgow as from the Annual General Meeting on April 4th, and have expressed their thanks to him for the valuable services he has rendered to the Society. Dr. T. S. Stevens has accepted this office in his place.

ACKNOWLEDGMENTS.

The Council have conveyed thanks to Sir Prafulla C. Rây for a contribution of £3 to the Library Fund; also to Sir David Rivett and to Dr. H. G. Rule for contributions of £1 each to the Publications Fund.

FELLOWSHIP.

The resignations of 11 Fellows have been accepted and the following 17 new Fellows were elected on February 15th:

Charles Guy Boissonnas.
Ernest Booth.
Frank Edward Crofts.
Peter Hervey Given.
Rodney Thomas William Hall.
John Harvey.
William Brannan Jackson.
John Raven Johnson.
Robert William Lapsley.
James Herbert Loudfoot.
Graham Robert Martin.
Bruce Hill Miller.
Anthony John Connal Nicholson.
Harry Simpson Sayer.
Edward O'Farrell Walsh.
John Ferguson Wareham.
Charity Waymouth.

GENERAL ANNOUNCEMENTS

BOARD OF TRADE.

The Board of Trade have made an Order under which exports of superphosphate of lime and phosphate rock to Eire will be subject to export licence from February 1st. Applications for licences should be made to the Export Licensing Department, Inveresk House, 346, Strand, W.C. 2.

The Treasury have made Orders under Section 10 (5) of the Finance Act, 1926, as amended by Section 2 (1) of the Import Duties (Emergency Provisions) Act, 1939, exempting certain articles from Key Industry Duty from February 7th, 1940, viz. aniline and phthalic anhydride, until June 30th, 1940, and certain metallic residues, containing sodium molybdate and/or sodium vanadate, until December 31st, 1940; also dodecyl alcohol from February 21st to June 30th, 1940.

Copies of the Treasury Orders, which are entitled "The Safeguarding of Industries (Exemption) (Nos. 1, 2, 3, and 4) Orders, 1940" may be obtained from H.M. Stationery Office.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, March 25th, 1940. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Bennett, Reginald Robert, B.Sc. (Lond.) F.I.C., Ph.C., British. The British Drug Houses Ltd., Graham Street, City Road, N. 1. Technical Director of the British Drug Houses Ltd.
Signed by : Charles Alex Hill, Francis H. Carr, P. G. Marshall.

Campbell, Ishbel Grace MacNaughton, B.Sc. and Ph.D. (St. Andrews), British. 22, Glebe Court, Highfield, Southampton. Lecturer in Organic Chemistry, University College, Southampton.
Signed by : N. K. Adam, Alexander Lawson, John Read.

Campbell, Norman Robert, Ph.D. (Lond.), A.I.C., British. 282, Cannon Hill Lane, S.W. 20. Research Organic Chemist (Halley-Stewart Fellow), Courtauld Institute of Biochemistry, Middlesex Hospital Medical School.
Signed by : C. T. Bennett, E. de Barry Barnett, N. F. Goodway, F. W. Chattaway.

Coumoulos, George Demetrius, D.Sc. (Athens), Greek. 10, Emmanuel Road, Cambridge. Research Student at Department of Colloid Science, Cambridge.
Signed by : Eric K. Rideal, Oliver Gatty, D. D. Eley.

Dagley, Jack, First Class Certificates in Water Technology at Hackney Technical Institute, British. Burgess Zeolite Co., Ltd., 68–72, Horseferry Road, Westminster, S.W. 1. Technical Director and Chief Chemist to above company.
Signed by : James P. O'Callaghan, L. O. Newton, F. Courtney Harwood.

Gurr, Edward, British. 13, Napier Avenue, S.W. 6. Manager, George T. Gurr Laboratories, S.W. 6.
Signed by : George T. Gurr, K. A. Williams, J. C. Crocker.

Meakins, Reginald John, B.Sc. (Sydney), British. Imperial College, S.W. 7. Organic Research Student.
Signed by : L. C. Cross, R. J. Nicholls, P. A. Wilkinson.

Pizer, Norman Henry, M.Sc. (Reading), Ph.D. (Lond.), F.I.C., British. South-Eastern Agricultural College, Wye, Ashford. Research and Advisory Agricultural Chemist and Head of Department.
Signed by : T. Wallace, R. L. Wain, Wm. Goodwin.

Wadsworth, Raymond Varian, A.I.C., British. 48, Bunbury Road, Northfield, Birmingham. Chief Chemist, Cadbury Bros., Bournville.
Signed by : Garfield Thomas, Howard A. Caulkin, Geo. King.

Williams, Alan Hugh, B.A. and B.Sc. (Oxon.), British. 70, St. Paul's Road, Coventry. Research Chemist, Courtaulds Ltd., Coventry.
Signed by : E. J. Bowen, Ronald P. Bell, J. H. Wolfenden.

Wright, Mrs. Winifred Grace, B.Sc. (Lond.), D.I.C., British. 35, Milbourne Lane, Esher. Chemistry Research at Battersea Polytechnic.
Signed by : J. Kenyon, C. W. Davies, A. Houston.

UNDER SPECIAL PROVISIONS APPERTAINING TO APPLICANTS RESIDENT ABROAD :

Breuer, George Eugene Francis, Dr.phil.nat. and Chem.Dr. (Vienna), Austrian. 28, Weymouth Street, W. 1.
Signed by : R. Lessing.

***Cane, Reginald Frank,** B.Sc.Hons. (Tasmania), A.A.C.I., British. National Oil Pty. Ltd., Glen Davis, N.S.W. Research Chemist with above company at Sydney.
Signed by : E. E. Kurth, G. C. Israel.

Giral, Francisco, Ph.D. (Madrid), Formerly Professor of Organic Chemistry at University of Salamanca, Spanish. Panuco 18, D., Mexico, D.F. Research Assistant in Chemistry Department of Mexico University.
Signed by : Robert Robinson.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between January 19th and February 20th, 1940. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" Preparation of certain optically active semicarbazides and a resolution of benzoin." By A. J. LITTLE, J. M'LEAN, and F. J. WILSON.

" Structure of the aluminium lakes of some azo-dyes and of alizarin." By W. F. BEECH and H. D. K. DREW.

" Copper lakes of azo-dyes. Some further types." By W. F. BEECH and H. D. K. DREW.

" Studies in the amino-sugars. Part II. The action of dilute alkali on *N*-acyl glucosamines." By T. WHITE.

" Studies on vitamin *E*. Part VII. Further investigations on homologues of α-tocopherol." By (MISS) A. JACOB, F. K. SUTCLIFFE, and A. R. TODD.

" 1 : 3 : 8-Trihydroxyanthraquinone." By W. K. ANSLOW, J. BREEN, and H. RAISTRICK.

" The influence of alkyl groups upon reaction velocities in solution. Part IV. The alkaline and acid hydrolyses of the ethyl esters of the lower saturated aliphatic acids in aqueous acetone." By G. DAVIES and D. P. EVANS.

" Some reactions of γ-Δ^{β}-lactones." By E. WALTON.

" Solvent effects with optically active saturated hydrocarbons." By A. W. H. PRYDE and H. G. RULE.

" The mercuration of some simple derivatives of γ-pyrone." By J. R. FILES and F. CHALLENGER.

" Catalytic toxicity and chemical structure. Part VI. The poisoning of platinum catalysts by metals." By E. B. MAXTED and A. MARSDEN.

" Calythrone." By A. R. PENFOLD and J. L. SIMONSEN.

" Experiments on the synthesis of 1 : 2-dimethyl*cyclo*hexylacetic acid." By F. C. COPP and J. L. SIMONSEN.

" Resolution of *dl*-Δ^2-*cyclo*geranic acid." By D. J. BENNETT, G. R. RAMAGE, and J. L. SIMONSEN.

" The composition of mink fat." By W. E. KEMP.

" Amino-acid and peptide esters of choline as possible analogues of the oxytocic hormone of the posterior lobe of the pituitary gland. Part I." By J. M. GULLAND, M. W. PARTRIDGE, and S. S. RANDALL.

" Mechanism of the reaction between arylamines and benzoins." By R. M. COWPER and T. S. STEVENS.

" Absorption spectra of *N*-substituted-auramine dyes." By G. E. F. BREUER and J. SCHNITZER.

" The reversibility of the rearrangement of *o*-hydroxy-sulphones." By R. R. COATS and D. T. GIBSON.

" The synthesis of growth-inhibitory polycyclic compounds. Part II." By G. M. BADGER and J. W. COOK.

" An attempted synthesis of papaverine." By J. F. KEFFORD.

" The kinetics of the inhibition of the reaction between chlorine and nitric oxide." By E. M. STODDART.

"Syntheses in the indole series. Part I. Synthesis of indolyl-3-glyoxylic acid and of *r*-3-indolylglycine." By J. W. BAKER.

"The steric course of the hydrolysis of α-phenylethyl chloride in acetone containing mercuric chloride." By D. R. READ and W. TAYLOR.

"Studies on hydrogen cyanide. Part XI. The constitution of the double compound of hydrogen cyanide and aluminium chloride." By L. E. HINKEL and T. I. WATKINS.

"The properties of 3 : 6-anhydrogalactose." By W. N. HAWORTH, J. JACKSON, and F. SMITH.

"Studies in polymorphism. Part V. The linear rate of transformation of monoclinic into rhombic sulphur." By P. G. ELIAS, J. E. D. JAMES, and N. H. HARTSHORNE.

"The constituents of some Indian essential oils. Part XXVII. A synthesis of *dl*-α-curcumene." By F. D. CARTER, J. L. SIMONSEN, and H. O. WILLIAMS.

"Adsorption at the interface between two fluids. Part III. The adsorption of five dyestuffs at a mercury–water interface." By C. W. GIBBY and C. ARGUMENT.

"*X*-Ray studies of the porphins." By (MISS) I. WOODWARD.

"Use of the benzyl radical in syntheses of methylated sugars. Part I. 4 : 6-Dimethyl glucose." By D. J. BELL and J. LORBER.

ADDITIONS TO THE LIBRARY

I. *Donations.*

CHALMERS, BRUCE. The physical examination of metals. Vol. I. Optical methods. London 1939. pp. viii + 181. ill. 14*s*. net. (*Recd.* 13/2/40.) From the Publishers: Messrs. Edward Arnold & Co.

OIL AND COLOUR CHEMISTS' ASSOCIATION. Varnish making: papers read at a symposium. London 1939. pp. x + 225. ill. (*Recd.* 3/2/40.) From the Association.

II. *By Purchase.*

BRADDICK, H. J. J. Cosmic rays and mesotrons. Cambridge 1939. pp. x + 68. ill. 5*s*. net. (*Recd.* 15/2/40.)

BURTON, DONALD, and ROBERTSHAW, GEORGE F. Sulphated oils and allied products: their chemistry and analysis. London 1939. pp. vi + 163 + iv. ill. 12*s*. 6*d*. net. (*Recd.* 15/2/40.)

FOWLER, R. H., and GUGGENHEIM, E. A. Statistical thermodynamics. Cambridge 1939. pp. x + 693. ill. 40*s*. net. (*Recd.* 15/2/40.)

GREAVES, RICHARD HENRY, and WRIGHTON, HAROLD. Practical microscopical metallography. 3rd edition. London 1939. pp. xii + 272. ill. 18*s*. net. (*Recd.* 15/2/40.)

JORPES, J. ERIK. Heparin, its chemistry, physiology and application in medicine. London 1939. pp. xii + 87. ill. 7*s*. 6*d*. net. (*Recd.* 15/2/40.)

MACDOUGALL, F. H. Thermodynamics and chemistry. 3rd edition. New York 1939. pp. x + 491. ill. $5. (*Recd.* 25/1/40.)

MCLESTER, JAMES S. Nutrition and diet in health and disease. 3rd edition. Philadelphia 1939. pp. 838. ill. $8. (*Recd.* 15/2/40.)

MATHEWS, ALBERT P. Physiological chemistry. 6th edition. [Baltimore] 1939. pp. xvi + 1488. ill. $8. (*Recd.* 15/2/40.)

MILLIKAN, R. A. Cosmic rays: three lectures. Cambridge 1939. pp. viii + 134. ill. 8*s*. 6*d*. net. (*Recd.* 15/2/40.)

RICHTERS, C. E. Die Tiere im chemischen Kriege. 4th edition. Berlin 1939. pp. 280. *M*. 13.60. (*Recd.* 15/2/40.)

TRESSLER, DONALD K., JOSLYN, MAYNARD A., and MARSH, GEORGE L. Fruit and vegetable juices. New York 1939. pp. xiv + 518. ill. $6. (*Recd.* 15/2/40.)

III. *Pamphlets.*

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH. Methods for the detection of toxic gases in industry. Leaflet No. 7. Carbon monoxide. London 1939. pp. iv + 9. ill.

HNOLOGY DEPT.

March 1940

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING MEETINGS

MEETINGS IN LONDON.

Thursday, April 4th, 1940.

At 2.30 p.m. **99TH ANNUAL GENERAL MEETING.**

At 3 p.m. (approximately). The President, **Sir Robert Robinson,** M.A., D.Sc., LL.D., F.R.S., will deliver his Presidential Address entitled **"Some Biological Aspects of Organic Chemistry. (a) Recent Progress in Chemotherapy, (b) Structural Relations in the Sterol Group."**

Interval for Tea.

At 5 p.m. **Professor E. K. Rideal,** M.B.E., M.A., D.Sc., F.R.S., will deliver the **Sörensen Memorial Lecture.**

Thursday, April 18th, 1940, *at 6 p.m.*

Lecture entitled **"The Polymerisation of Vinyl Compounds,"** by **Professor R. G. W. Norrish,** Ph.D., Sc.D., F.R.S.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON

LECTURE AT BIRMINGHAM, FEBRUARY 19th.

A joint meeting of the Chemical Society and the Birmingham University Chemical Society was held on February 19th in the Chemistry Lecture Theatre of the University, when the Tilden Lecture entitled " Recent Progress in the Chemistry of Plant Gums and Pectic Materials " was delivered by Professor E. L. Hirst, F.R.S. Both the Chairman (Professor W. N. Haworth, F.R.S.) and the lecturer referred in glowing terms to the work of Sir William Tilden, a former Professor of chemistry in this University.

Professor Hirst then gave his address in a manner which held the attention and stimulated the interest of a large audience. A vote of thanks proposed by Dr. S. Peat and seconded by Dr. F. Smith was carried with acclamation.

LECTURE AT BRISTOL, FEBRUARY 29th.

A joint meeting of the Chemical Society, the Institute of Chemistry, and the Society of Chemical Industry was held at 7 p.m. in the University Chemical Department, Woodland Road, on February 29th, when Dr. H. W. Melville gave a lecture entitled " The Mechanism of the Synthesis of Large Molecules."

A description was given of the application of the principles of chemical kinetics to the formulation of the mechanism of the polymerisation of vinyl compounds in the vapour phase. The only satisfactory method of starting polymerisation is by direct photo-activation of the molecule, or by the addition of hydrogen atoms or methyl radicals to the monomeric vapour. In the latter case the active polymer is a free radical which may add on many monomeric units in a matter of a few milliseconds. Technique for measuring these short lifetimes involving the use of rotating sectors, and multiple sources of radiation were described. These free radical polymerisations often differ markedly from the direct photopolymerisation, from which it may be surmised that the latter reaction takes place by quite another mechanism. For example, this reaction is sometimes characterised by the fact that polymerisation in the dark, after illumination, occurs for extended periods. This not only allows the formation of molecules of extremely high molecular weight, but also provides a technique for building up molecular sandwiches of any desired constitution. Methods were described for determining kinetically the chain length of such photo polymers.

At the conclusion of the lecture, which was well attended, a vote of thanks to the Lecturer, proposed by Dr. E. B. Maxted and seconded by Professor W. E. Garner, was carried with acclamation, Dr. Melville making brief acknowledgment.

LECTURE AT CARDIFF, FEBRUARY 16th.

A joint meeting of the Society with the Chemical and Physical Society of the University College of South Wales and Monmouthshire was held in the University College, Cathays Park, at 6.30 p.m. on Friday, February 16th, 1940, with Dr. D. T. Lewis, President of the

College Society, in the Chair. Dr. F. G. Mann, D.Sc., Sc.D., F.I.C., delivered a lecture on "Recent work in the investigation of Molecular Structure." The Lecturer introduced the problem of the structure of bridged metallic compounds by reference to "double molecules" such as Al_2Cl_6, and then dealt fully with the bridged derivatives of trialkylphosphines and arsines with palladous halides, which can theoretically exist in one unsymmetric and two symmetric forms. Chemical and physical evidence was adduced to demonstrate that such compounds are planar, possessing the *trans*-symmetric form in the crystalline state, and existing in solution as a tautomeric mixture of the two symmetric forms, whilst unbridged palladium compounds which could give the unsymmetric type do not react with palladous chloride. Bridged compounds of cadmium and mercury having tetrahedral structure were then described, including one containing both cadmium and mercury and one combining planar palladium with tetrahedral mercury. Dr. Mann concluded by describing some bridged gold compounds and the co-ordinated cuprous complex : $[Et_3As \rightarrow CuI]_4$.

A cordial vote of thanks to the lecturer, proposed by Dr. H. B. Watson and seconded, on behalf of the College Society, by Miss D. Clements, was carried with acclamation.

LECTURE AT GLASGOW, FEBRUARY 16th.

A meeting of the Society, in co-operation with the Local Sections of the Society of Chemical Industry and the Institute of Chemistry, the Alchemists' Society, and the Andersonian Chemical Society, was held at 7 p.m. on Friday, February 16th, in the Royal Technical College. Professor T. S. Patterson was in the Chair.

Professor W. F. K. Wynne-Jones, D.Sc., delivered a lecture on "Ionisation and its Chemical Significance." Pointing out that the earlier ionisation theory of Arrhenius suffered from the failure to understand the energetics of the process, the Lecturer then showed that the energy required to ionise an atom (as shown by its ionisation potential) could be supplied by the energy of hydration of the ion in solution (or by its lattice energy for the solid state), the existence and stability of the ion thus depending on its energy of hydration. The variation of the dissociation constants of weak acids with temperature can be correlated with the fact of hydration, as can also the changes in the rates of certain reactions such as racemisation.

The lecture was followed by a discussion, and a vote of thanks, proposed by Dr. J. A. Cranston, was carried with acclamation.

LECTURE AT NOTTINGHAM, MARCH 7th.

A meeting of the Society was held jointly with the East Midlands Section of the Institute of Chemistry and the Nottingham Section of the Society of Chemical Industry, at 7 p.m., in the Welbeck Hotel, Nottingham, on March 7th, with Dr. Hunter in the Chair.

Professor E. C. Dodds, M.V.O., D.Sc., F.R.C.P., delivered a lecture on "Hormones." The Lecturer gave an interesting historical account of the development of the subject, and concluded with a consideration of some more recent work. A discussion followed. The lecture was well attended, and a vote of thanks proposed by Mr. Harold Calam and seconded by Professor J. Masson Gulland was carried with acclamation.

OFFICIAL ANNOUNCEMENTS.

FELLOWS ON ACTIVE SERVICE.

Fellows, who are on active service with the Navy, Army and Air Force are requested to notify the General Secretary of the Society, giving such particulars as may be permissible, as to their rank, unit, etc.

GENERAL ANNOUNCEMENTS.

BOARD OF TRADE.

Import Order.

The Board of Trade have issued The Import (Certificates of Origin and Interest) Order, 1939, (Amendment) Order, 1940, dated February 22nd, 1940. As a result of this Amending Order, which came into force on March 1st, certificates of origin and interest will no longer be required for the following goods imported into the United Kingdom from any country :—

felspar; iron pyrites; nickel hydroxide; cotton yarns; woollen and worsted yarns; binder and reaper twine; rubber outer tyres; rubber inner tubes; news films; photographic prints; consignments of goods valued at less than £3.

Export Orders.

The Board of Trade have made the Export of Goods (Control) Orders No. 5 and No. 6. As a result of the former, a licence will be required for the export of creosote oil to any destination as from March 1st. The changes effected by the latter, which came into force on March 2nd are as follows :—

(*a*) Paper bags and paper sacks of which any side exceeds 400 square inches in area will require a licence for all destinations.

(*b*) Flowmeters not containing mercury may be exported to destinations within the British Empire without a licence (flowmeters containing mercury still require a licence for export to any destination).

(*c*) Sheep and cattle-dips exported to destinations outside the British Empire will require a licence in future only if they contain arsenic compounds. (No licence is required for the export of animal dips to Empire destinations.)

(*d*) Insecticides, fungicides, and weed killers; other than those containing certain specified constituents (*e.g.*, arsenic, cyanides, fluorides, cubé, derris, etc.) will no longer require a licence for any destination.

(*e*) Liquid chlorine may be exported to Empire destinations without a licence.

The Board of Trade have issued the Export of Goods (Control) (No. 8) Order, dated March 8th, which came into force on Monday, March 18th. The changes effected by this Order are as follows :—

(*a*) Licences will be required for the export to European destinations of andalusite, fibrolite, kyanite, sillimanite, and zircon.

(*b*) Licences will be required for the export to any destination of nearly all non-ferrous metals and alloys thereof in unwrought or semi-manufactured forms (including angles, shapes, sections, pipes, and tubes); waste cordage and waste twine; cadmium mass and cadmium sulphide; ethyl morrhuate and sodium morrhuate; and tar oil and other heavy coal tar oils.

(*c*) Licences will no longer be required for the export of graphite and ammonium chloride to destinations outside Europe.

(*d*) Licences will no longer be required for the export to any destination of single-vision spectacle lenses, silver wire, scythes, sickles, and other agricultural and horticultural tools (except forks, shovels, and spades).

Applications for export licences should be made to the Export Licensing Department, Inveresk House, 346, Strand, London, W.C.2, except in the case of applications for licences for paper bags and sacks, which should be sent to the Paper Control, Ministry of Supply, Great Western Hotel, Reading.

The full text of these orders will be published by H.M. Stationery Office and reproduced in the *Board of Trade Journal*.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, April 15th, 1940. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

***Chapman, John Harold,** British. 105, Woodcock Hill, Kenton, Harrow. Chemistry Student at Imperial College, S.W.7.
Signed by : E. R. H. Jones, H. V. A. Briscoe, H. F. Harwood.

Fitzgerald, Maurice Edward Hugh, B.Sc. (Lond.), British. 89, Devonshire Way, Shirley. Organic Chemist at Courtauld Institute of Biochemistry, Middlesex Hospital, W.1.
Signed by : Wilfrid Lawson, G. M. Richardson, F. W. Chattaway.

***Green, John Herbert,** British. 23, Highlands Heath, S.W.15. Student of Chemistry for Part II Natural Sciences Tripos, Cambridge.
Signed by : F. G. Mann, D. Purdie, J. Chatt.

***Harvey, Eleanor Mary Armine,** B.A. (Oxon.), British. Brooks Court, Camberley. Reading for Part II Chemistry and B.Sc. in Oxford.
Signed by : Ronald P. Bell, W. H. C. Simmonds, M. J. S. Dewar.

***Holliman, Frederick George,** British. 21, Emery Street, Cambridge. Student at Trinity College, Cambridge, for Part II of Natural Sciences Tripos in Chemistry.
Signed by : F. G. Mann, D. Purdie, W. Cule Davies.

Huang-Minlon, Ph.D. (Berlin), Chinese. Courtauld Institute of Biochemistry, Middlesex Hospital, W.1. Research Organic Chemist.
Signed by : Wilfrid Lawson, F. W. Chattaway, E. R. Smith.

Jordan, Denis Oswald, M.Sc. (Lond.), A.I.C., British. Wynchgate, Alford Road, West Bridgford. Assistant Lecturer in Applied Chemistry at University College, Nottingham.
Signed by : J. Masson Gulland, E. B. R. Prideaux, John C. Roberts.

***Lyon, Donald Robert,** British. 47, Prestbury Road, Cheltenham. Student of Trinity College, Cambridge, reading for Part II of Natural Sciences Tripos in Chemistry.
Signed by : F. G. Mann, D. Purdie, J. Chatt.

***McLaren, Keith,** British. 40, Wensley Drive, Chapel Allerton, Leeds, 7. Student in Honours B.Sc. Colour Chemistry Leeds University.
Signed by : J. W. Baker, F. M. Rowe, F. R. Goss, F. Challenger, Arnold T. Peters, G. Hagues.

Routledge, Donald, B.Sc. Hons. and Ph.D. (St. Andrews), Carnegie Research Scholar (1928—35), British. Burrows Cottage, The Links, Pembrey. Managing Chemist.
Signed by : J. C. Irvine, John Dewar, J. W. H. Oldham.

***Six, Charles George,** British. 8, Fillebrook Road, E.11. Research Chemist at Messrs. F. W. Berk & Co., Ltd.
Signed by : J. R. Booer, L. N. Tyrrell, E. de Barry Barnett.

***Stacey, Gilbert Joseph,** British. Emmanuel College, Cambridge. Reading Chemistry for Part II of Natural Sciences Tripos, Cambridge.
Signed by : R. G. W. Norrish, F. G. Mann, P. Maitland.

Steel, Frederick William, Foundation Associate of the Australian Chemical Institute, British. South British Chambers, 23, Barrack Street, Perth. Public Analyst and Consulting Chemist.
Signed by : E. M. Watson, G. A. Elliott, N. T. M. Wilsmore.

Taylor, Archie, British. c/o Messrs. W. J. Brookes & Sons, Ltd., Skerton Road, Old Trafford. Analytical and Chief Chemist with Messrs. W. J. Brookes, food manufacturers.
Signed by : F. T. Winfield, A. F. H. Ward, R. F. Garwood.

***Wilkins, Cuthbert John,** M.Sc. (N.Z.), British. 22, Prince's Square, Bayswater, W.2. Chemistry Research Student at Imperial College, S.W.7.
Signed by : H. J. Emeléus, Kenneth Stewart, A. G. Maddock.

* Reduced Annual Subscription.

UNDER SPECIAL PROVISIONS APPERTAINING TO CANDIDATES RESIDENT ABROAD:

Huber, Wolfgang, Ph.D. (Göttingen), German. 96 South Main Avenue, Albany, N.Y. Research Chemist with the Winthrop Chemical Co., Rensselaer, N.Y.
Signed by: Adolf Windaus.

McGrath, Joseph Sarto, Reverend Professor, C.S.C., Ph.D. (Notre Dame), American. University of Portland, Portland, Oregon. Head of Chemistry Department and Chairman of the Science Division.
Signed by: H. B. Fröning and Samuel Glasstone.

Tourky, Ahmed Riad, Ph.D. (Munich), Egyptian. 14, Rue Zifta, Heliopolis, Cairo. Senior Lecturer in Inorganic Chemistry, Faculty of Science, Fouad I University, Abbassia.
Signed by: Alexander Schönberg and G. Soliman.

PAPERS RECEIVED

List of papers received between February 20th and March 26th, 1940. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"8-Hydroxyquinoline as a reagent for the determination of magnesium, especially in carbonate and silicate rocks." By C. C. MILLER and I. C. McLENNAN.

"The sensitisation of the hydrogen–oxygen reaction by nitrous oxide." By C. J. DANBY and C. N. HINSHELWOOD.

"Solubilities of the chlorides of lanthanum, praseodymium, and neodymium; new hydrates." By J. N. FRIEND and R. W. HALE.

"Observations on the condensation products from 'α-terpinene' and the carenes with maleic anhydride." By N. F. GOODWAY and T. F. WEST.

"Lupanetriol and its oxidation." By E. R. H. JONES and R. J. MEAKINS.

"Relationship between the energy absorbed at the maximum of absorption and the atomic structure." By G. BREUER.

"Miro resin. Part II. The resin acids." By C. W. BRANDT and L. G. NEUBAUER.

"The interaction of aryl hydrazines and halogenated aldehydes." By H. IRVING.

"3 : 4′-Dinitrodiphenyl—a correction." By W. A. WATERS.

"The decomposition of chlorosulphinic esters." By M. P. BALFE and J. KENYON.

"The fungi. Part I. The triterpene acids of *Polyporus betulinus* Fr." By L. C. CROSS, C. G. ELIOT, I. M. HEILBRON, and E. R. H. JONES.

"Studies in the sterol group. Part XL. The bromination of 7-ketocholesteryl acetate." By H. JACKSON and E. R. H. JONES.

"Sapogenins. Part VII. The structure of quillaic acid and its relation to echinocystic acid." By D. F. ELLIOTT, G. A. R. KON, and H. R. SOPER.

"Sapogenins. Part VIII. The sapogenin of Fuller's herb." By G. A. R. KON and H. R. SOPER.

"The constitution of complex metallic salts. Part XI. The structure of the tertiary phosphine and arsine derivatives of cadmium and mercuric halides." By R. C. EVANS, F. G. MANN, H. S. PEISER, and D. PURDIE.

"The constitution of complex metallic salts. Part XII. Bridged compounds containing two different metallic atoms." By F. G. MANN and D. PURDIE.

"Compounds related to the natural œstrogens: γ-*cyclo*pentyl-δ-(4-hydroxyphenyl)-Δ^{γ}-hexene, γ-(2-methyl*cyclo*pentyl-δ-(4-hydroxyphenyl)-Δ^{γ}-hexene." By HUANG-MINLON.

"The potentiometric estimation of hydroxylamine and hydrazine in alkaline solution." By H. T. S. BRITTON and (MISS) M. KÖNIGSTEIN.

DETROIT PUBLIC LIBRARY

"The condensation of 3-chlorophthalic anhydride with tetrahydronaphthalene." By N. R. CAMPBELL.

"The resolution of methyl-β-naphthyl carbinol." By T. A. COLLYER and J. KENYON.

"The production of polycyclic aromatic types through the *cyclo*dehydration of unsaturated ketones." By W. S. RAPSON and R. G. SHUTTLEWORTH.

ADDITIONS TO THE LIBRARY

I. *Donations.*

BULANKIN, I. N. Principles of senescence of gelatine sols and jellies. Materials on senescence of biocolloids. Kharkov 1939. pp. 103. ill. [In Russian.] (*Recd.* 1/3/40.) From the Kharkov State University.

FEARON, WILLIAM ROBERT. An introduction to biochemistry. 2nd edition. London 1940. pp. xii + 475. ill. 17*s.* 6*d.* net. (*Recd.* 7/3/40.) From the Publishers: Messrs. William Heinemann (Medical Books).

HARD, ALEXANDER. The story of rayon. London 1939. pp. viii + 83. (*Recd.* 23/2/40.) From the Author.

LYNCH, G. ROCHE, and PRYCE, D M. Toxicology. I. Homicidal, suicidal, and accidental poisoning. (From the *British Encyclopaedia of Medical Practice*, 1939, 12.) pp. [68]. (*Reference.*) From Dr. G. Roche Lynch, O.B.E.

MOTT, R. A., and WHEELER, R. V. The quality of coke: being the 2nd report of the Midland Coke Research Committee, Iron and Steel Industrial Research Council. London 1939. pp. xxxvi + 464. ill. 36*s.* net. (*Recd.* 19/2/40.) From Dr. R. Lessing.

II. *By Purchase.*

HEATON, NOËL. Outlines of paint technology. 2nd edition. London 1940. pp. x + 413. ill. 25*s.* net. (*Recd.* 19/2/40.)

HERZBERG, GERHARD. Molecular spectra and molecular structure. I. Diatomic molecules. Translated . . . by J. W. T. SPINKS. New York 1939. pp. xxx + 592. ill. $6.50. (*Recd.* 6/3/40.)

IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS. Technical Communication No. 11. Fruit juices and related products. By V. L. S. CHARLEY and T. H. J. HARRISON. East Malling 1939. pp. 104. ill. 5*s.* net. (*Recd.* 19/2/40.)

ROBERTS, J. K. Some problems in adsorption. Cambridge 1939. pp. x + 120. ill. 7*s.* 6*d.* net. (*Recd.* 19/2/40.)

SAGE, BRUCE H., and LACEY, WILLIAM N. Volumetric and phase behaviour of hydrocarbons. Stanford University 1939. pp. xii + 299. ill. $5. (*Recd.* 19/2/40.)

SHOHL, ALFRED T. Mineral metabolism. (American Chemical Society Monograph Series.) New York 1939. pp. x + 384. ill. $5. (*Recd.* 8/3/40.)

III. *Pamphlets.*

WILMINK, GERARD FREDERIK. Inwerking van cyclohexylamine op aromatische halogeennitroverbindingen. Leiden 1940. pp. vi + 167.

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April 1940

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING MEETINGS

MEETING IN LONDON.

Thursday, May 16th, 1940, at 6 p.m.

Seventh Pedler Lecture, entitled "Recent Developments in the Chemistry of Carbohydrates," by Professor W. N. HAWORTH, D.Sc., F.R.S., Nobel Laureate, will be held in the **Lecture Theatre of the Institution of Mechanical Engineers,** Storey's Gate, Westminster, S.W. 1.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

ANNIVERSARY MEETINGS.

The Anniversary Meetings of the Society were held in London on April 4th, 1940, and a full report of the Ninety-Ninth Annual General Meeting appears in the *Journal* for April.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, April 4th, 1940, at 5 p.m.

The PRESIDENT, SIR ROBERT ROBINSON, M.A., D.Sc., LL.D., F.R.S., was in the Chair, and welcomed the visitors present.

After a brief introduction, the PRESIDENT called on Professor E. K. Rideal to deliver the Sörensen Memorial Lecture.

At the conclusion of the lecture, a vote of thanks to the Lecturer was proposed by Professor F. G. Donnan, seconded by Professor J. L. Simonsen, and carried with acclamation.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, April 18th, 1940, at 6 p.m.

The PRESIDENT, SIR ROBERT ROBINSON, M.A., D.Sc., LL.D., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting on February 15th, 1940, were taken as read, and were confirmed and signed.

The PRESIDENT referred to the loss sustained by the Society, through death, of the following Fellows:

	Elected.	Died.
Maurice Blood	1896	March 31st, 1940.
William Duncan	1891	May 15th, 1939.
Charles E. L. Livesey	1903	March, 1940.
Arthur Pinkerton	1919	Nov. 16th, 1939.
Luther R. Scammell	1885	April 8th, 1940.
George Baty Scott	1925	July 14th, 1939.
Angus Smith	1888	March 5th, 1940.
John I. Watts	1878	Feb. 3rd, 1939.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: E. Gurr, G. P. Armstrong, J. Harvey, G. D. Coumoulos, G. E. F. Breuer, J. Dagley, and Thomas W. Howard.

After a brief introduction, the PRESIDENT called on Professor R. G. W. Norrish to deliver his lecture entitled "Some Aspects of the Polymerisation of Vinyl Compounds."

At the conclusion of the lecture, there was a short discussion in which the President, Mr. W. H. Cadman, Professor H. W. Melville, Dr. A. R. J. P. Ubbelohde, and Dr. G. S. Whitby took part. A vote of thanks to the Lecturer was then moved from the Chair and carried with acclamation.

OFFICIAL ANNOUNCEMENTS.

CONGRATULATIONS.

The PRESIDENT has conveyed the congratulations of the Council to the following Fellows who have completed 60 and 50 years of Fellowship:

60 years.

	Elected.
William Macnab	Feb. 19, 1880.
Alexander Kenneth Miller	do.
Christopher Colborne Graham	April 15th, 1880.
Harold Humboldt Slater	do.

50 years.

Robert Frederick Blake	March 6th, 1890.
William Burton	do.
Frank Gossling	do.
John Scott Lumsden	do.
Charles Ridgeway Beck	April 17th, 1890.
Harold Picton	do.

and to Sir Harold Carpenter on his receiving the award of the Honda Prize of the Japan Metallurgical Society.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Professor R. Robison and Mr. F. C. Smith for contributions to the Publications Fund, and to Dr. A. F. Campbell and Mr. G. Kaufman for presenting numbers of the publications of the Society.

LOCAL REPRESENTATIVE FOR CAMBRIDGE.

Dr. E. A. Moelwyn-Hughes has agreed to act temporarily as Local Representative for Cambridge during the absence of Dr. F. B. Kipping.

TILDEN LECTURES.

Professor H. W. Melville and Professor A. R. Todd have accepted the invitation of the Council to give the Tilden Lectures during next Session.

PREVENTION OF DISCLOSURE OF UNAUTHORISED INFORMATION AT SCIENTIFIC MEETING.

The Council have received a communication from the Director of the Press and Censorship Bureau calling attention to the necessity for taking steps to prevent the unauthorised disclosure of confidential matters which may be the subject of discussion at Scientific Meetings of the Society. The Council have decided that every Visitor introduced by a Fellow should be required to sign the following undertaking appearing in the Visitors Book:

> "I undertake to regard the proceedings of this meeting as confidential, and will not make, or aid in, any publication of the matters discussed without the authority of the Council,"

and would remind Fellows that the proceedings of all meetings of the Society are confidential.

FELLOWS ON ACTIVE SERVICE.

Fellows who are on active service with the Navy, Army, and Air Force are requested to notify the General Secretary of the Society, giving such particulars as may be permissible, as to their rank, unit, etc.

FELLOWSHIP.

The resignations of 22 Fellows have been accepted, the name of 1 Fellow has been removed for non-payment of annual subscriptions, and the following 31 candidates have been elected Fellows:

On April 4th.

Reginald Robert Bennett.
George Eugene Francis Breuer.
Ishbel Grace MacNaughton Campbell.
Norman Robert Campbell.
Reginald Frank Cane.
George Demetrius Coumoulos.
Jack Dagley.
Francisco Giral.
Edward Gurr.
Reginald John Meakins.
Norman Henry Pizer.
Raymond Varian Wadsworth.
Alan Hugh Williams.
Winifred Grace Wright.

On April 18th.

John Harold Chapman.
Maurice Edward Hugh Fitzgerald.
John Herbert Green.
Eleanor Mary Armine Harvey.
Frederick George Holliman.
Huang-Minlon.
Denis Oswald Jordan.
Donald Robert Lyon.
Joseph Sarto McGrath.
Keith McLaren.
Donald Routledge.
Charles George Six.
Gilbert Joseph Stacey.
Frederick William Steel.
Archie Taylor.
Ahmed Riad Tourky.
Cuthbert John Wilkins.

GENERAL ANNOUNCEMENT

BOARD OF TRADE.

The Treasury have made an Order under Section 10 (5) of the Finance Act, 1926, continuing the exemption from Key Industry duty of the articles specified below until June 30th, 1940.

Copies of the Treasury Order, which is entitled the Safeguarding of Industries (Exemption) No. 5 Order, 1940, may be obtained from H.M. Stationery Office.

Synthetic organic chemicals, analytical reagents, other fine chemicals and chemicals manufactured by fermentation processes, the following:

Barbitone (Veronal; Malonal; Malourea; acid diethyl-barbituric; diethylmalonylurea; Hypnogen; Deba).

Glycol ethers.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Tuesday, May 14th, 1940. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

***Allenby, Wilfrid Ernest,** B.Sc. (Leeds), British. 107, Holgate Road, York. University Research Student.
Signed by: J. W. Baker, W. A. Wightman, H. Burton.

Auerbach, Herbert, Dr.Ing. (Berlin), German (recognised by English Tribunal as friendly alien). 46, Northways, N.W. 3. Adviser for Chemical Industry.
Signed by: Ewart Mather, J. A. Gardner, W. D. Scott.

Brock, Raymond Barrington, B.Sc. (Lond.), F.R.P.S., British. Crabwood, Oxted. Director and General Manager, Messrs. Townson and Mercer, Ltd., E.C. 3.
Signed by: H. J. Emeléus, B. Arthur Hems, B. K. Blount, F. A. Robinson.

Carroll, Michael Francis, M.Sc. (Lond.), British. 49, Forest Drive East, E. 11. Research Chemist.
Signed by: Thos. H. Durrans, Denis C. Quin, W. J. Grant.

Elliott, Thomas Harold, Ph.C., M.P.S., British. 23, South Road Back, Southall. Pharmacist.
Signed by: W. S. Patterson, R. J. Winterton, J. H. Wilkinson.

* Reduced annual subscription.

Fuller, Cedric, B.Sc.Hons. (Lond.), A.I.C., British. 12A, Louis Street, Hull. Science Master at Bootham School.
Signed by: F. G. Tryhorn, S. J. Gregg, J. W. Baker.

***Marlow, Arthur Maurice,** B.Sc. (Wales), British. The Sanatorium, Talgarth. Research experience.
Signed by: J. L. Simonsen, W. Rogie Angus, G. R. Ramage.

***Pearman, John Peter Thomas,** British. 56, Clifton Park Road, Clifton, Bristol, 8. Student reading for Part II of Natural Sciences Tripos in Organic Chemistry at Sidney Sussex College, Cambridge.
Signed by: W. C. Badcock, H. McCombie, David James Bell.

***Taylor, Duncan,** B.Sc.Hons. (Edin.), British. 123, Queensferry Road, Rosyth. Carnegie Research Student for degree of Ph.D. at University of Edinburgh.
Signed by: James Kendall, Mowbray Ritchie, H. Gordon Rule, Neil Campbell, E. G. V. Percival.

UNDER SPECIAL PROVISIONS APPERTAINING TO CANDIDATES RESIDENT ABROAD:

Bradshaw, Sidney Basil, M.P.S., British. 9529 Bell Avenue, Beverley Hills, Chicago. General Manager of the Armour Laboratories, Chicago.
Signed by: C. E. Corfield.

* Reduced annual subscription.

RESEARCH GRANTS.

The Council have made the following grants from the Research Fund:

		£	s.	d.
H. Campbell (University, Cambridge).	"Studies on the adsorption of gases on clean metal surfaces by the method of contact potentials."	5	0	0
D. D. Eley (University, Cambridge).	"The catalysis of the *para*-hydrogen conversion by clean tungsten filaments."	5	0	0
W. H. Linnell (College of the Pharmaceutical Society, London).	"(*a*) Synthetic iodo compounds with thyroid activity. (*b*) Synthesis of compounds reflecting portions of the Vit. D molecule."	10	0	0
G. R. Ramage (Univ. Coll. of N. Wales, Bangor).	"Sulphur and arsenic derivatives of aromatic amines."	10	0	0
A. Wassermann (Imperial Coll.)	"Catalysis by heavy metal sulphides."	20	0	0
		£50	0	0

PAPERS RECEIVED

List of papers received between March 26th and April 24th, 1940. (This list does not include the titles of papers which have appeared in the *Journal*.)

"Cannabis indica. Part II. Isolation of cannabidiol from Egyptian hashish. Observations on the structure of cannabinol." By (Miss) A. Jacob and A. R. Todd.

"Sarcostin. Part I. A preliminary study of its behaviour with reagents." By J. W. Cornforth and J. C. Earl.

"Kinetics of the catalysed polymerisation of styrene. Part III. On the mechanism of metal chloride catalysis." By G. Williams.

"Electrometric studies of the precipitation of hydroxides. Part XIII. The amphoteric nature of vanadium tetroxide." By H. T. S. Britton and G. Welford.

"Electrometric studies of the precipitation of hydroxides. Part XIV. Vanadous hydroxide. The nature of vanadous chloride and sulphate solutions." By H. T. S. Britton and G. Welford.

"Some N^4-diethylaminoalkyl-N^1-dialkylsulphanilamides and related compounds." By J. WALKER.

"Physicochemical studies of complex acids. Part XIV. Vanadic acid." By H. T. S. BRITTON and G. WELFORD.

"Additions of allyl alcohols to the active methylene group. Part I. The action of acetoacetic ester on linalool and geraniol." By M. F. CARROLL.

"The interconversion of isomeric hexoses by simple optical inversions." By W. E. TETLOW and (the late) G. J. ROBERTSON.

"Dissociation constants, activation energies, and resonance." By H. O. JENKINS.

"The acetylation of *d*-ψ-ephedrine and *l*-ephedrine." By W. MITCHELL.

"The minor alkaloids of *Dubosia myoporoides*. Part III. Valeroidine." By W. F. MARTIN and W. MITCHELL.

"Preparation of thiophen derivatives. Part II." By N. K. CHAKRABARTY and S. K. MITRA.

"The coefficients of thermal expansion of certain solutions." By R. WRIGHT.

"The determination of the thermodynamic dissociation constants of dibasic acids." By J. C. SPEAKMAN.

"Dehydrogenation. Part II. The elimination and migration of methyl groups from quaternary carbon atoms during catalytic dehydrogenation." By R. P. LINSTEAD and S. L. S. THOMAS.

"Dehydrogenation. Part III. The formation of naphthols from alcohols and ketones of the hydronaphthalene group." By R. P. LINSTEAD and K. O. A. MICHAELIS.

"Dehydrogenation. Part IV. Catalytic disproportionation and dehydrogenation of some terpenes and terpene ketones." By R. P. LINSTEAD, K. O. A. MICHAELIS, and S. L. S. THOMAS.

"Fused carbon rings. Part XVIII. Further investigations of model substances of the sexual hormone type." By V. C. E. BURNOP and R. P. LINSTEAD.

"Fused carbon rings. Part XIX. Experiments on the synthesis of tetracyclic compounds of the sexual hormone type." By V. C. E. BURNOP, G. H. ELLIOTT, and R. P. LINSTEAD.

"Physicochemical studies of complex acids. Part XV. The basic nature of vanadium pentoxide." By H. T. S. BRITTON and G. WELFORD.

"The triterpene group. Part VII. The minor triterpenoid constituents of *Manila elemi* resin." By (MISS) I. M. MORICE and J. C. E. SIMPSON.

"Bases of which methincyanines are the quaternary salts." By (MISS) F. M. HAMER.

"Kinetics of a diene-association under constant volume conditions." By D. M. NEWITT and A. WASSERMANN.

"Experiments in the glutamic acid series." By C. R. HARINGTON and R. C. G. MOGGRIDGE.

"Studies on hydrogen cyanide. Part XII. The asymmetry of the tetrapolymer of hydrogen cyanide." By L. E. HINKEL and T. I. WATKINS.

"The interaction of *n*-butyl alcohol and the chlorides and oxychloride of phosphorus in the absence or in the presence of pyridine." By W. GERRARD.

"Mechanism of elimination reactions. Part V. Kinetics of olefin elimination from ethyl, isopropyl, *tert.*-butyl, and α- and β-phenylethyl bromides in acidic and alcoholic solution. Effects due to, and factors influencing, the two mechanisms of elimination." By E. D. HUGHES, C. K. INGOLD, S. MASTERMAN, and B. J. MCNULTY.

"Mechanism of substitution at a saturated carbon atom. Part XI. Hydrolysis of *tert.*-butyl chloride in acidic moist acetone." By L. C. BATEMAN, K. A. COOPER, and E. D. HUGHES.

"Mechanism of substitution at a saturated carbon atom. Part XII. Hydrolysis of benzhydryl chloride in acidic moist acetone." By M. G. CHURCH and E. D. HUGHES.

"Mechanism of substitution at a saturated carbon atom. Part XIII. Mechanisms operative in the hydrolysis of methyl, ethyl, *iso*propyl, and *tert.*-butyl bromides in aqueous solutions." By L. C. BATEMAN, K. A. COOPER, E. D. HUGHES, and C. K. INGOLD.

"Mechanism of substitution at a saturated carbon atom. Part XIV. Unimolecular substitutions of *tert.*-butyl chloride with water, and with anions, as substituting agents in formic acid solution." By L. C. BATEMAN and E. D. HUGHES.

"Mechanism of substitution at a saturated carbon atom. Part XV. Unimolecular and bimolecular substitutions of *n*-butyl bromide with water, and with anions, as substituting agents in formic acid solution." By L. C. BATEMAN and E. D. HUGHES.

"Mechanism of substitution at a saturated carbon atom. Part XVI. Hydrolysis of methyl, ethyl, *iso*propyl and *tert.*-butyl bromides in acidic solutions under conditions believed to be conducive to uniformity of mechanism." By L. C. BATEMAN and E. D. HUGHES.

"Mechanism of substitution at a saturated carbon atom. Part XVII. Polar effects in alkyl groups, as illustrated by solvolytic substitutions of *p*-alkylbenzhydryl chlorides." By E. D. HUGHES, C. K. INGOLD, and N. A. TAHER.

"Mechanism of substitution at a saturated carbon atom. Part XVIII. Polar effect of the carboxylate-ion group as illustrated by the hydrolysis of the bromomalonate and α-bromomethylmalonate ions." By E. D. HUGHES and N. A. TAHER.

"Mechanism of substitution at a saturated carbon atom. Part XIX. A kinetic demonstration of the unimolecular solvolysis of alkyl halides. (Section A.) Kinetics of, and salt effects in, the hydrolysis of *tert.*-butyl bromide in aqueous acetone." By L. C. BATEMAN, E. D. HUGHES, and C. K. INGOLD.

"Mechanism of substitution at a saturated carbon atom. Part XX. A kinetic demonstration of the unimolecular solvolysis of alkyl halides. (Section B.) Kinetics of, and salt effects in, the hydrolysis of benzhydryl halides in aqueous acetone." By M. G. CHURCH, E. D. HUGHES, and C. K. INGOLD.

"Mechanism of substitution at a saturated carbon atom. Part XXI. A kinetic demonstration of the unimolecular solvolysis of alkyl halides. (Section C.) Kinetics of, and salt effects in, the hydrolysis of *p*-monoalkylbenzhydryl halides in aqueous acetone." By M. G. CHURCH, E. D. HUGHES, C. K. INGOLD, and N. A. TAHER.

"Mechanism of substitution at a saturated carbon atom. Part XXII. A kinetic demonstration of the unimolecular solvolysis of alkyl halides. (Section D.) Kinetics of, and salt effects in, the hydrolysis of *pp'*-dimethylbenzhydryl chloride in aqueous acetone." By L. C. BATEMAN, E. D. HUGHES, and C. K. INGOLD.

"Mechanism of substitution at a saturated carbon atom. Part XXIII. A kinetic demonstration of the unimolecular solvolysis of alkyl halides. (Section E.) A general discussion." By L. C. BATEMAN, M. G. CHURCH, E. D. HUGHES, C. K. INGOLD, and N. A. TAHER.

"Mechanism of substitution at a saturated carbon atom. Part XXIV. Qualitative survey of nucleophilic substitutions of benzhydryl halides in sulphur dioxide solution." By L. C. BATEMAN, E. D. HUGHES, and C. K. INGOLD.

"Mechanism of substitution at a saturated carbon atom. Part XXV. Unimolecular halogen exchange between an alkyl halide and halide ions in sulphur dioxide solution; and a concluding note." By L. C. BATEMAN, E. D. HUGHES, and C. K. INGOLD.

"The structure of aromatic compounds. Part III. The action of acetyl chloride on α- and β-naphthylmethylmagnesium halides." By N. CAMPBELL, W. ANDERSON, and J. GILMORE.

"Synthesis of lipophilic chemotherapeuticals. Part IV. N-Acylated arsanilic acids." By E. BERGMANN, L. HASKELBERG, and F. BERGMANN.

"The condensation of naphthols and anthrone with bases of the 'Mannich' type." By R. MICHAELIS.

"Sapogenins. Part IX. The occurrence and constitution of bassic acid." By B. J. HEYWOOD and G. A. R. KON.

"The constitution of yeast ribonucleic acid. Part IV. Syntheses of uridylic and guanylic acids, uridine-5-phosphate and guanosine-5-phosphate." By J. M. GULLAND and G. I. HOBDAY.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

BRITISH PLASTICS YEAR BOOK, 1940. London 1940. pp. 462. ill. (*Reference.*) 15*s.* net. From the Publishers : Plastics Press.

BRUN, E., and JOCKEY, E. Cours de chimie générale à l'usage des élèves de mathématiques spéciales. Paris 1940. pp. vi + 243. ill. *Fr.* 65 + 18%. (*Recd.* 12/4/40.)
From the Publishers : MM. Gauthier-Villars.

CARTIERE BURGO. The experimental laboratory of the Cartiere Burgo. Torino 1939. pp. 16 + 35 plates. (*Reference.*)
From the Director.

CONWAY, EDWARD J. Micro-diffusion analysis and volumetric error. London 1939. pp. xiv + 306. ill. 25*s.* net. (*Recd.* 19/3/40.)
From the Author.

HUDSON, J. C. The corrosion of iron and steel : being a general account of the work of the Corrosion Committee of the Iron and Steel Institute and the British Iron and Steel Federation. London 1940. pp. xvi + 319. ill. 18*s.* net. (*Recd.* 11/4/40.)
From Mr. E. C. Evans.

MANN, FREDERICK GEORGE, and SAUNDERS, BERNARD CHARLES. Practical organic chemistry. 2nd edition. London 1938. pp. xiv + 418. ill. 8*s.* 6*d.* net. (*Recd.* 4/4/40.)

—— —— Introduction to practical organic chemistry. London 1939. pp. x + 191. ill. 4*s.* 6*d.* (*Recd.* 4/4/40.) From the Authors.

II. *By purchase.*

BELL, [SIR WILLIAM JAMES]. Sale of food and drugs. 10th edition. By R. A. ROBINSON and ROBERT IVES. London 1939. pp. xxviii + 363 + 42. 15*s.* net. (*Recd.* 18/4/40.)

BURKE, A. D. Practical manufacture of cultured milks and kindred products. Milwaukee 1938. pp. xvi + 195. ill. 14*s.* net. (*Recd.* 2/4/40.)

EVANS, JOHN W., and DAVIES, GEORGE M. Elementary crystallography. 2nd edition. London 1940. pp. viii + 149. ill. 6*s.* 6*d.* net. (*Recd.* 18/4/40.)

HOUWINK, R. [Editor.] Chemie und Technologie der Kunststoffe. Leipzig 1939. pp. xvi + 625. ill. *M.* 42.40. (*Recd.* 3/4/40.)

JAMES, G. V. Water treatment . . . for all purposes and effluents purification. London 1940. pp. xii + 224. ill. 30*s.* net. (*Recd.* 18/4/40.)

SIMONDS, HERBERT R. Industrial plastics. London 1940. pp. xii + 371. ill. 22*s.* 6*d.* net. (*Recd.* 18/4/40.)

SNELL, FOSTER DEE, and SNELL, CORNELIA T. Chemicals of commerce. New York 1939. pp. viii + 542. (*Reference.*) $5.

TURNER, WAYNE I., and HENRY, VICTOR M. Growing plants in nutrient solutions, or scientifically controlled growth. New York 1939. pp. xiv + 154. ill. $5. (*Recd.* 12/4/40.)

UNITED STATES. *Department of Commerce.* Trade promotion series. No. 195. World chemical developments in 1938. By C. C. CONCANNON and A. H. SWIFT. Washington 1939. pp. viii + 205. (*Reference.*) 25*c.*

VOLMER, MAX. Kinetik der Phasenbildung. Dresden 1939. pp. xii + 220. ill. *M.* 19. (*Recd.* 28/3/40.)

III. *Pamphlets.*

ASSOCIATION OF AMERICAN SOAP AND GLYCERINE PRODUCERS. Glycerine and its derivatives. 2nd edition. Chicago 1940. pp. 28. ill.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND. Lecture on a century of chemistry : "From Boyle to Priestley." Compiled by RICHARD B. PILCHER. London 1940. pp. 43. ill.

TECHNOLOGY DEPT.

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May 1940

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Charles Slater	1879	15th March, 1940.
Thomas Williams	1872	10th April, 1940.

CONGRATULATIONS.

The President has conveyed the congratulations of the Council to Mr. J. Kear Colwell who completed 50 years of Fellowship on the 15th May.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Messrs. André Bracher and H. E. Brothers for presenting numbers of the publications of the Society.

COMMITTEES.

The Council have conveyed their thanks to the retiring members of Committees for the services they have rendered to the Society.

The following Committees have been appointed for 1940–1941:

Finance and General Purposes Committee.

F. H. Carr, H. J. T. Ellingham, I. M. Heilbron, C. N. Hinshelwood, C. K. Ingold, R. G. W. Norrish, J. C. Philip, R. E. Slade, together with the Officers, the Chairman of the Publication Committee and the representative of the Joint Library Committee on the Council of the Chemical Society. The President as Chairman, Treasurer as Vice-Chairman, and the General Secretary as Secretary.

Publication Committee.

S. Sugden as Chairman, A. J. Allmand, W. Baker, R. P. Bell, F. P. Bowden, H. V. A. Briscoe, F. Challenger, G. R. Clemo, W. E. Garner, C. F. Goodeve, J. M. Gulland, D. Ll. Hammick, G. S. Hartley, R. D. Haworth, I. M. Heilbron, E. D. Hughes, H. King, G. A. R. Kon, W. H. Mills, R. A. Morton, J. R. Partington, A. Robertson, J. M. Robertson, R. Robison, N. V. Sidgwick, H. Terrey, and A. R. Todd, together with the Officers, and the Editor as Secretary.

Research Fund Committee.

W. E. Garner, I. M. Heilbron, C. N. Hinshelwood, W. H. Mills, T. S. Moore, J. L. Simonsen, R. E. Slade, S. Smiles, S. Sugden, and the Officers, with the President as Chairman, and the General Secretary as Secretary.

Publications Exchange Committee.

O. L. Brady (ex-officio), A. C. G. Egerton, H. J. Emeléus, T. A. Henry, E. E. Turner, and the Officers, with Dr. O. L. Brady as Chairman and the Librarian as Secretary, together with a member nominated by the Bureau.

FELLOWS ON ACTIVE SERVICE.

Fellows who are on active service with the Navy, Army, and Air Force are requested to notify the General Secretary of the Society, giving such particulars as may be permissible, as to their rank, unit, etc.

FELLOWSHIP.

The resignations of 12 Fellows were accepted; 3 Fellows were reinstated, and the following 9 new Fellows were elected on the 16th May:

Wilfrid Ernest Allenby.
Sidney Basil Bradshaw.
Raymond Barrington Brock.
Michael Francis Carroll.
Thomas Harold Elliott.
Cedric Fuller.
Arthur Maurice Marlow.
John Peter Thomas Pearman.
Duncan Taylor.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, June 17th, 1940. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Borthwick, James Leonard, A.I.C., British. 86, Temple Park Crescent, Edinburgh, 11. Works Chemist to North British Rubber Co., Ltd.
Signed by: G. F. Marrian, A. F. Graham, Edgar Stedman.

***Butement, Francis Dudley Stewart,** B.Sc. (Lond.), A.I.C., British. 4, West Park, S.E. 9. Junior Scientific Officer, Research Department, Royal Arsenal.
Signed by: J. S. Dick, W. W. Jones, Arthur I. Vogel.

***Crawford, Thomas Blackie Beveridge,** B.Sc.Hons. (Edin.), British. 134, Greenbank Road, Edinburgh, 10. Carnegie Research Scholar in Medical Chemistry Department of University of Edinburgh.
Signed by: G. F. Marrian, C. P. Stewart, A. F. Graham.

***Gent, William Laurence Greenwood,** B.Sc.Hons. (Lond.), British. 43, Effingham Road, Bristol, 6. Research Student at King's College, London.
Signed by: G. M. Bennett, Gwyn Williams, E. W. McClelland.

***Glasson, Basil Wharton,** British. 3, Surbiton Hill Park, Surbiton. Student at Oxford University.
Signed by: D. Ll. Hammick, Ronald P. Bell, H. M. Powell.

***King, David Wylie,** B.Sc. (Lond.), British, 79, Marlborough Mansions, N.W. 6. Assistant Chemist to Macleans, Ltd., Brentford.
Signed by: Henry Terrey, J. N. E. Day, E. D. Hughes.

***King, Nicholas Kelso,** B.Sc. (Sydney), British. c/o Bank of New South Wales, 47, Berkeley Square, W. 1. Student at Dyson Perrins Laboratory, Oxford.
Signed by: Robert Robinson, S. G. P. Plant, J. C. Smith.

***Lodge, Reginald Montague,** B.A. and B.Sc. (Oxon.), British. 31, Davenant Road, Oxford. Research Chemist.
Signed by: Ronald P. Bell, C. N. Hinshelwood, J. H. Wolfenden.

Rigby, William, B.Sc.Hons. (Lond.), Ph.C., A.I.C. British. College of the Pharmaceutical Society, c/o University College, Cathays Park, Cardiff. Demonstrator and Research Student.
Signed by: Wilfred H. Linnell, Frank Hartley, David T. Lewis.

Smith, Robert Lewis, B.Sc.Hons. (Edin.), A.I.C., British. 24, Town Lane, Bebington. Research Chemist with Messrs. Lever Brothers and Unilever, Ltd.
Signed by: Duncan Bruce, Mowbray Ritchie, E. G. V. Percival.

***Stannett, Vivian Thomas,** A.I.C., British. Berry House, Stoke Poges. Works Chemist, British Celanese, Ltd., Spondon.
Signed by: John C. Roberts, J. Masson Gulland, D. O. Jordan.

***Storey, Ian David Edward,** B.Sc.Hons. (Edin.), British. Royal Observatory, Edinburgh. Carnegie Research Scholar in Medical Chemistry Department of Edinburgh University.
Signed by: G. F. Marrian, R. Michaelis, A. F. Graham.

*** Reduced Annual Subscription.**

***Sullivan, Kathleen Winifred,** B.Sc. (Lond.), British. 11, Hazelwood Road, Northampton. Student at King's College, London.
Signed by : G. M. Bennett, E. W. McClelland, C. S. Salmon.

***Thomas, John Kendall,** B.A. (Oxon.), British. Balliol College, Oxford. Demonstrator in Physical Chemistry at Balliol and Trinity Colleges.
Signed by : Richard Barrow, D. H. Everett, Ronald P. Bell.

Turner, Arthur James, M.A. (Cantab.), D.Sc. (Lond.), British. Linen Industry Research Association, The Research Institute, Lambeg, Lisburn, Co. Antrim. Director of Research.
Signed by : Arthur Geake, J. C. Withers, R. G. Fargher.

***Turner, Harold Silas,** Inter.B.Sc. (Lond.), British. 87, Wilsthorpe Road, Long Eaton. Studying for B.Sc. degree.
Signed by : J. M. Connolly, G. Malcolm Dyson, C. Whitworth.

Wilson, Robert Douglas, Inter.B.Sc. (Lond.), British. 22, Ormidale Terrace, Edinburgh, 12. Chief assistant in physical laboratory of North British Rubber Co.
Signed by : James Sandilands, Robert G. M. Dakers, Hugh B. Nisbet.

UNDER SPECIAL PROVISIONS APPERTAINING TO APPLICANTS RESIDENT ABROAD :

Shiple, George Joseph, A.B. and M.C. (St. Louis), D.Sc. (Fordham), U.S.A. Chemistry Department, University of Detroit, Detroit, Michigan. Professor of Chemistry and Head of Department.
Signed by : Oliver Kamm.

*** Reduced Annual Subscription.**

PAPERS RECEIVED

List of papers received between April 24th and May 21st, 1940. (This list does not include the titles of papers which have appeared in the *Journal.*)

"The chemistry of the 'insoluble red' woods. Part I. Pterocarpin and homopterocarpin." By A. McGookin, A. Robertson, and W. B. Whalley.

"Organic derivatives of sulphur, selenium, and tellurium. Part I." By D. T. Lewis.

"Curare alkaloids. Part V. Alkaloids of some chondrodendron species and the origin of radix pareirae bravae." By H. King.

"The rotary dispersion and circular dichroism of *l*-menthyl *d*-β-chloro-β-nitrosobutyrate." By S. Mitchell and G. K. Simpson.

"Sodium polyiodides." By G. H. Cheesman, D. R. Duncan, and I. W. H. Harris.

"Chalkones: reactions of *o*-hydroxyphenyl 6-methoxy-2 : 3-benzostyryl ketone and of some derivatives." By B. G. Acharya, R. C. Shah, and T. S. Wheeler.

"The action of Grignard reagents on methyl *r*-tropate and on methyl atropate." By A. McKenzie and E. R. Winter.

"Free radicals and radical stability. Part VIII. The stability of formates and the reduction of triarylcarbinols." By S. T. Bowden, D. L. Clarke, and W. E. Harris.

"Free radicals and radical stability. Part IX. The influence of short-lived and long-lived radicals on the reactivity of alcohols." By S. T. Bowden.

"Free radicals and radical stability. Part X. The influence of the methyl group on the stability of triphenylmethyl." By S. T. Bowden and D. L. Clarke.

"The carbonyl constituents of eucalyptus oils. Part III. The constitution of phellandral. *d*-, *l*-, and *dl*-(synthetic) phellandric acids." By R. G. Cooke, A. K. Macbeth, and T. B. Swanson.

"The action of nitrous acid on tertiary amines: the influence of acidity." By G. P. Crowley, G. J. G. Milton, T. H. Reade, and W. M. Todd.

"Monolayers on solids." By J. K. Roberts.

"The chemical nature of basic zinc carbonate." By E. S. GYNGELL and J. R. I. HEPBURN.

"Ultra-violet absorption spectra of nitrogenous heterocycles. Part I. Effect of p_H and irradiation on the spectrum of adenine." By J. R. LOOFBOUROW, S. MIRIAM, and M. STIMSON.

"Studies in optical superposition. Part IX. *l*-Menthyl esters of mucic and 1:2:3:4-tetrahydroxyadipic acids." By R. W. LAPSLEY, J. ROBERTSON, and T. S. PATTERSON.

"Phthalocyanines and related compounds. Part XVII. Intermediates for the preparation of tetrabenzporphins: acids derived from phthalimidine." By R. P. LINSTEAD and G. A. ROWE.

"Phthalocyanines and related compounds. Part XVIII. Intermediates for the preparation of tetrabenzporphins: the Thorpe reaction on phthalonitrile." By P. A. BARRETT, R. P. LINSTEAD, and (in part) J. J. LEAVITT, and G. A. ROWE.

"Phthalocyanines and related compounds. Part XIX. Tetrabenzporphins, tetrabenzmonazaporphin and their metallic derivatives." By P. A. BARRETT, R. P. LINSTEAD, F. G. RUNDALL, and G. A. P. TUEY.

"The Fries rearrangement of phenyl laurate and phenyl stearate." By H. E. BELL and J. E. DRIVER.

"The influence of a solvent on the strength of the hydrogen bridge." By E. A. MOELWYN-HUGHES.

ADDITIONS TO THE LIBRARY

I. *Donations.*

KINGZETT, C. T. Chemical encyclopædia: a digest of chemistry and its industrial applications. 6th edition. Revised and edited by RALPH K. STRONG. London 1940. pp. x + 1088. ill. (*Reference.*) 45*s.* net. From the Publishers: Messrs. Baillière, Tindall & Cox.

KUNGL. SVENSKA VETENSKAPSAKADEMIEN. Förhistoria, grundläggning och första organisation. By BENGT HILDEBRAND. 2 vols. Stockholm 1939. pp. xvi + 672, vi, 673 to 885. ill. (*Reference.*) From the Academy.

ROTHAMSTED EXPERIMENTAL STATION. Library catalogue of printed books and pamphlets on agriculture published between 1471 and 1840. 2nd edition. Harpenden 1940. pp. 293. ill. (*Reference.*) 15*s.* net. From Sir John Russell, O.B.E.

II. *By purchase.*

FINDLAY, ALEXANDER. Chemistry in the service of man. 5th edition. London 1939. pp. xx + 398. ill. 8*s.* 6*d.* net. (*Recd.* 22/4/40.)

HILDITCH, T. P. The chemical constitution of natural fats. London 1940. pp. xii + 438. 35*s.* net. (*Recd.* 27/4/40.)

RICE, OSCAR KNEFLER. Electronic structure and chemical binding, with special reference to inorganic chemistry. New York 1940. pp. xiv + 511. ill. $5. (*Recd.* 15/5/40.)

SVEDBERG, THE, and PEDERSEN, KAI O. The ultracentrifuge. Oxford 1940. pp. x + 478. ill. 40*s.* net. (*Recd.* 22/4/40.)

III. *Pamphlets.*

BRITISH STANDARDS INSTITUTION. British Standard Specifications. No. 593—1940. General purpose laboratory thermometers. (Revised.) pp. 16.

—— —— No. 611—1940. Petri dishes. (Revised.) pp. 7. ill.

—— —— No. 894—1940. The determination of the flow and drop points of fats and allied substances. (Apparatus and method of use.) pp. 11. ill.

—— —— No. 895—1940. Microbiological examination of butter. pp. 14.

ELWELL, WILLIAM E. [Compiler.] Pectin: its manufacture, properties and uses. [Seattle] 1939. pp. 66.

HENRIQUES, ROBERT. Der Kautschuk und seine Quellen. Dresden 1899. pp. 31 + 5 tables and 4 maps.

IMPERIAL BUREAU OF ANIMAL NUTRITION. Technical Communication No. 9. Methods for the chemical analysis of biological material in nutrition investigations. Edited by WILLIAM GODDEN. Aberdeen 1937. pp. 55. ill.

—— Technical Communication No. 10. Table of composition of foods, giving the energy value, protein, fat, carbohydrate, calcium, phosphorus and iron content of some 300 foods commonly used in Great Britain and compiled for use in the analysis of dietary surveys. Aberdeen 1938. pp. 14.

WALLERSTEINER, K. The aldehydes in the chemotherapy of tumors. (From the *London Hospital Gazette*, 1940, 43.)

TECHNOLOGY DEPT.

June 1940

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PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

At their meeting held on June 20th the Council learned with profound regret of the death on June 10th of their distinguished Past-President, Sir Jocelyn Thorpe, and passed the following resolution which the President has conveyed to Lady Thorpe :

> The President, Council, and Fellows of the Chemical Society learned with profound sorrow at their meeting to-day of the death on June 10th, 1940, of their eminent Past-President, Sir Jocelyn Field Thorpe.
>
> They desire to express their high appreciation of his distinguished original contributions to the Science of Chemistry and of the services he rendered to the Government and Industry. Endowed with abundant vitality, he not only carried out important researches himself, but imparted his enthusiasm to those associated with him, and has thus left a lasting memorial. They also record their great indebtedness to him for his devotion to the affairs of the Society. During the 21 years he served on the Council he filled with distinction the offices of Treasurer, Vice-President, and President. The Council remember with gratitude that to him was due the institution of the Publications Fund, which has proved invaluable to the Society, and the establishment of the Superannuation Scheme for the benefit of the Staff.
>
> The Science of Chemistry is poorer by his death, and the Council mourn the loss of a revered colleague, who had endeared himself to all by the unfailing kindness and generosity of his nature and by his fund of humour so often directed against himself.
>
> The Council convey their deep sympathy to Lady Thorpe in her great sorrow.

The deaths of the following Fellows were also announced :

	Elected.	Died.
Oliver Gatty	1933	June 5th, 1940.
Sir Arthur Harden	1887	June 17th, 1940.
Christopher Rawson	1880	May 30th, 1940.

and the Secretaries were directed to convey the sympathy of the Council to the relatives.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Major R. B. Turbutt for sending a contribution to the Publications Fund for 1941, and to Dr. P. J. Garner and Dr. P. Szego for presenting copies of the Society's publications.

WILL OF THE LATE SIR GILBERT MORGAN.

The Council have been informed that under the Will of the late Sir Gilbert Thomas Morgan, after paying certain pecuniary bequests, the income from his residuary estate, amounting to £28,870 (net personalty), has been left to Lady Morgan for life and, at her death, on trust on certain conditions to the Chemical Society.

TILDEN LECTURES.

Professor H. W. Melville and Professor A. R. Todd have accepted the Council's invitation to give the Tilden Lectures during the session 1940–1941, and Professor Todd has chosen as the title of his lecture "Vitamins of the B Group."

SCHEME OF CO-OPERATION FOR THE THREE CHARTERED CHEMICAL BODIES.

At their meeting on June 20th the Council had under consideration a suggested agreement and an amended scheme of co-operation for the three chartered chemical bodies, and have approved the scheme subject to certain modifications. The Chemical Council has been informed accordingly, and Fellows will be advised of further developments.

RESEARCH FUND.

A Meeting of the Research Fund Committee will be held in November next. Applications for grants, to be made on forms obtainable from the General Secretary, must be received on or before **Friday, November 1st, 1940.** Applications from Fellows will receive prior consideration.

All persons who have received grants, and whose accounts have not been declared closed by the Council, are reminded that reports must be returned by **November 1st**.

Attention is drawn to the fact that the income arising from the Donation of the Worshipful Company of Goldsmiths is principally devoted to the encouragement of research in Inorganic and Metallurgical Chemistry, and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and allied Industries.

LIBRARY.

The Library will be entirely closed for cleaning from Monday, August 5th to Saturday, August 10th, inclusive. The annual revision and recall of books, however, will not take place.

FELLOWSHIP.

At the Council meeting on June 20th, the resignation of 1 Fellow was accepted; future annual subscriptions of two Fellows of 40 years' standing were remitted; the names of 20 Fellows were removed from the List of Fellows for non-payment of annual subscriptions under the action of Bye-Law 15, and the following 18 candidates were elected Fellows of the Society:

James Leonard Borthwick.
Francis Dudley Stewart Butement.
Thomas Blackie Beveridge Crawford.
William Laurence Greenwood Gent.
Basil Wharton Glasson.
David Wylie King.
Nicholas Kelso King.
Reginald Montague Lodge.
William Rigby.
George Joseph Shiple.
Robert Lewis Smith.
Vivian Thomas Stannett.
Ian David Edward Storey.
Kathleen Winifred Sullivan.
John Kendall Thomas.
Arthur James Turner.
Harold Silas Turner.
Robert Douglas Wilson

GENERAL ANNOUNCEMENT

CHEMISTS AND THE CENTRAL REGISTER.

The Ministry of Labour has recently called attention to the fact that further chemists are urgently needed by Government Departments and that it is essential that the names of all chemists of either sex, especially young chemists, who are both qualified and willing, should be included on the Register. Roughly speaking, the minimum qualification for enrolment as a chemist on the Register is a degree in chemistry or an equivalent qualification, or, on the other hand, several years' experience in chemical practice or industry.

Enrolment on the Central Register implies that the persons concerned will be prepared to accept suitable full-time employment offered to them, unless they are already engaged on work of national importance, but the volunteers themselves are the judges of the suitability of the post offered, and only the names of volunteers who have expressed their willingness to be considered for any particular post offered are submitted to the prospective

employers. Further particulars of the Central Register, and in particular of the Chemistry Sections, will be supplied on application to the Secretary, Ministry of Labour and National Service, Central Register Branch, Queen Anne's Chambers, Westminster, S.W.1, and volunteers are asked to write to that address.

There is also an immediate requirement for juniors, normally of Inter.B.Sc. standard, preferably with laboratory or factory experience, who are not qualified for enrolment on the Central Register, but are available for employment such as that of laboratory or experimental assistant, at a salary range between £130 and £260 per annum (£130 to £230 per annum in the case of women), according to qualifications and experience. Persons suitable for appointment to such posts are normally recruited from the Supplementary Register of persons with professional, technical, and business attainments, which is maintained at certain selected offices of the Ministry of Labour and National Service. Any persons willing to be considered for the junior posts referred to are invited to apply in writing for enrolment in the Supplementary Register through the most convenient Local Office of the Ministry, the address of which can be obtained at any Post Office; the application will then be forwarded to the appropriate selected office.

PAPERS RECEIVED

List of papers received between May 21st and June 25th, 1940. (This list does not include the titles of papers which have appeared in the *Journal*.)

"Studies in the sterol-oestrone group. Part II. Some derivatives of 2-phenyl*cyclo*hexanone." By J. C. BARDHAN.

"The constitution of arabic acid. Part V. Methylated arabic acid." By F. SMITH.

"Rottlerin. Part VI. A spectrographic study of rottlerin and its derivatives." By R. A. MORTON and Z. SAWIRES.

"Application of the diene synthesis to terpenoid compounds. Eucarvone and maleic anhydride." By T. F. WEST.

"The interaction of β-ionone with halides in the presence of lithium, and a synthesis of 1 : 6-dimethylnaphthalene." By F. B. KIPPING and F. WILD.

"Attempts to find new antimalarials. Part XVII. Derivatives of 5 : 6-pyridoquinoline." By W. O. KERMACK and (MISS) A. P. WEATHERHEAD.

"Quadrivalent vanadium lakes of azo-dyes." By H. D. K. DREW and F. G. DUNTON.

"The magnitude of the solvent effect in dipole moment measurements. Part III. Polarisation and association of alcohols in the liquid phase." By F. R. GOSS.

"Chelation in the potassium compounds of carboxylic and sulphinic acids." By (MRS.) W. G. WRIGHT.

"Studies in the composition of coal: extraction of coal with quinoline." By R. BELCHER and (the late) R. V. WHEELER.

"The refractivity of formamide." By G. F. SMITH.

"The stereochemistry of 3-covalent arsenic. Isomeric forms of 9 : 10-di-*p*-tolyl-9 : 10-dihydroarsanthrene." By. J. CHATT and F. G. MANN.

"The reduction of nitrosylsulphuric acid by sulphur monoxide." By C. J. WILKINS.

"Derivatives of 1 : 2 : 3 : 4-tetrahydroxybenzene. Part VI. The oxidation of quinol with sodium chlorate." By W. BAKER and (MISS) I. MUNK.

"The constitution of complex metallic salts. Part XIII. The stability of the 4-covalent auric complex." By F. G. MANN and D. PURDIE.

"Addition of αβ-unsaturated alcohols to the active methylene group. Part II. The action of ethyl acetoacetate on α- and β-cinnamyl alcohols." By M. F. CARROLL.

"Mechanism of polymerisation. Part V. Experiments relating to the constitution of the solid dimeride and the liquid trimeride of βγ-dimethylbutadiene, and to the separation of the higher polymerides." By E. H. FARMER and J. F. MARTIN.

"Mechanism of low-molecular polymerisation. Part VI. Dimerisation of unconjugated pentadiene." By A. AHMAD and E. H. FARMER.

"The preparation of 2-phenylnaphthalene from diphenyl." By D. H. HEY and R. WILKINSON.

"The nitrosation of phenols. Part XVIII. The synthesis of 3-fluoro-4-nitrosophenol and of 3-fluoro-6-nitrosophenol. A comparison of the stabilities of the 3-halogeno-4-nitrosophenols." By H. H. HODGSON and D. E. NICHOLSON.

"The structure of metanethole." By W. M. BAKER and J. ENDERLY.

"The constituents of natural phenolic resins. Part XVII. A synthesis of 1-matairesinol." By R. D. HAWORTH and F. H. SLINGER.

"Constituents of the leaves of certain leucadendron species. Part III. Oxidation of leucodrin derivatives with periodic acid and lead tetra-acetate." By W. S. RAPSON.

ADDITIONS TO LIBRARY.

I. *Donations.*

BENNETT, E. F. A review of driers and drying. London 1940. pp. 90. ill. 3*s*. 6*d*. net. (*Recd*. 21/5/40.) From the Publishers: Paint Technology (Neil R. Fisk).

COMPAGNO, I. Analisi dei metalli non ferrosi di uso industriale e delle loro leghe. Milano 1939. pp. xii + 494. *L*. 60. (*Recd*. 12/6/40.) From Dr. C. A. Mitchell.

PRIESTLEY, JOSEPH. The history and present state of discoveries relating to vision, light, and colours. 2 vols. London 1772. pp. xiv, xvi + 422, ii, 423 to 812, xii. ill. (*Reference*.) From Dr. J. Newton Friend.

REKO, VICTOR A. Magische Gifte. Rausch- und Betäubungsmittel der neuen Welt. 2nd edition. Stuttgart 1938. pp. xii + 206. *M*. 6. (*Recd*. 12/6/40.) From Dr. C. A. Mitchell.

REVUE SCIENTIFIQUE. Revue rose illustrée. Year LXXVIII etc. Paris 1940 +. (*Reference*.) From the Faraday Society.

SAND, H. J. S. Electrochemistry and electrochemical analysis. Vol. II. Gravimetric electrolytic analysis and electrolytic Marsh tests. London 1940. pp. x + 149. ill. 5*s*. net. (*Recd*. 24/5/40.)

From the Publishers: Messrs. Blackie & Son.

II. *By purchase.*

BAMFORD, FRANK. Poisons: their isolation and identification. London 1940. pp. viii + 344. ill. 18*s*. net. (*Recd*. 20/6/40.)

DORSEY, N. ERNEST. Properties of ordinary water-substance in all its phases: water-vapor, water, and all the ices. (American Chemical Society, Monograph Series.) New York 1940. pp. xxiv + 673. ill. $15. (*Recd*. 20/6/40.)

FIELDING, T. J. Photo-electric and selenium cells: their operation, construction and uses. 2nd edition. London 1940. pp. viii + 163. ill. 7*s*. 6*d*. net. (*Recd*. 20/6/40.)

KEHL, GEORGE L. The principles of metallographic laboratory practice. New York 1939. pp. xii + 359. ill. $3.50. (*Recd*. 20/6/40.)

MACK, JULIAN ELLIS, and MARTIN, MILES J. The photographic process. New York 1939. pp. xviii + 586. ill. $5. (*Recd*. 20/6/40.)

MOTT, N. F., and GURNEY, R. W. Electronic processes in ionic crystals. Oxford 1940. pp. xii + 275. ill. 20*s*. net. (*Recd*. 20/6/40.)

SZENT-GYÖRGYI, ALBERT V. On oxidation, fermentation, vitamins, health and disease. Baltimore 1939. pp. xii + 109. $2. (*Recd*. 20/6/40.)

WIGNER, J. H. Soap manufacture: the chemical processes. London 1940. pp. viii + 162. 10*s*. net. (*Recd*. 20/6/40.)

WILLIAMS, ROBERT S., and HOMERBERG, VICTOR O. Principles of metallography. 4th edition. New York 1939. pp. x + 339. ill. $3.50. (*Recd*. 20/6/40.)

III. *Pamphlets.*

INDIAN TEA ASSOCIATION. *Tochlai Experimental Station*. Memorandum No. 6. Nitrogen supply to tea. By H. R. COOPER. Calcutta 1939. pp. iv + 135.

THAYER-OJEDA, TOMÁS. Hipotesis sobre la formacion de la materia. Santiago 1939. pp. 56.

TECHNOLOGY DEPT.

THE CHEMICAL SOCIETY

PUBLIC LIBRARY
OCT 26 1940
DETROIT

IMPORTANT
SEE ANNOUNCEMENTS

NOTICE OF FORTHCOMING MEETINGS

MEETINGS IN LONDON.

Scientific Meetings were arranged to be held in London in October, November, and December, 1940, but owing to the circumstances of the times the Council have decided to postpone such meetings until the end of 1940.

MEETINGS OUTSIDE LONDON.

BIRMINGHAM.

October 21st, 1940, at 4.30 p.m. **Lecture** on "The Constituents of Natural Phenolic Resins," by Professor R. D. Haworth, D.Sc. To be held in the Chemistry Lecture Theatre, The University, Edgbaston.

BRISTOL.

October 3rd, 1940, at 6.30 p.m. **Lecture** on "By-Products of Industrial Research," by Dr. Gwyn Williams. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, to be held in the Chemistry Lecture Theatre of the University.

EDINBURGH.

November 26th, 1940, at 6.30 p.m. **Lecture** on "The Chemical Exploration of the Stratosphere," by Professor F. A. Paneth, Ph.D. Joint Meeting with the Edinburgh University Chemical Society, the Institute of Chemistry, and the Society of Chemical Industry, to be held at Heriot-Watt College.

GLASGOW.

October 14th, 1940, at 5 p.m. Lecture on "Synthetic Oestrogens," by Professor E. C. Dodds, M.V.O., M.D., D.Sc., F.R.C.P. To be held at the University.

November 15th, 1940, at 7 p.m. **Lecture** on "The Structure of Proteins," by Dr. W. T. Astbury. To be held at the Royal Technical College.

LEEDS.

October 14th, 1940, at 7.30 p.m. **Lecture** on "The Constituents of Natural Phenolic Resins," by Professor R. D. Haworth, D.Sc. To be held in the General Lecture Theatre of the University.

LIVERPOOL.

October 31st, 1940, at 5 p.m. **Lecture** on "Recent Work on the Chemistry of Protozoal Infections," by Professor Warrington Yorke, M.D., F.R.C.S., F.R.S. Joint meeting with the Liverpool University Chemical Society, to be held in the Lecture Theatre of the University.

MANCHESTER.

November 2nd, 1940, at 2.15 p.m. **Lecture** on "Coal Rank and Structure," by Professor H. L. Riley, D.Sc. Joint Meeting with the Manchester Section of the Society of Chemical Industry and other Societies. To be held in the Chemistry Lecture Theatre of the University. Fellows wishing to obtain lunch in the Staff House of the University at 1 p.m. should notify Dr. G. N. Burkhardt (The University, Manchester) by October 31st.

ST. ANDREWS AND DUNDEE.

November 25th, 1940, at 4.30 p.m. **Lecture** on "The Chemical Exploration of the Stratosphere," by Professor F. A. Paneth, Ph.D. To be held in the Chemistry Lecture Theatre at University College, Dundee.

SHEFFIELD.

November 8th, 1940, at 5.30 p.m. **Lecture** on "Reactions in Monolayers," by Professor E. K. Rideal, M.B.E., M.A., D.Sc., F.R.S. Joint Meeting with the Sheffield University Chemical Society. To be held in the Chemistry Lecture Theatre of the University, Western Bank.

SOUTH WALES.

In Cardiff.

October 18th, 1940, at 7 p.m. **Lecture** on "Some Recent Developments in Microchemistry" (illustrated by films), by Mrs. Janet W. Matthews, Ph.D. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Chemistry and Physics Lecture Theatre of the University College of South Wales and Monmouthshire.

In Swansea.

November 14th, 1940, at 6.30 p.m. **Lecture** on "Fluorine: Some Recent Developments in the Chemistry of the Element and its Derivatives," by Dr. H. J. Emeléus. Joint Meeting with the University College of Swansea Chemical Society. To be held at the Royal Institution of South Wales.

November 29th, 1940, at 6.30 p.m. **Lecture** on "Some Aspects of Surface Action," by Professor E. K. Rideal, M.B.E., M.A., D.Sc., F.R.S. Joint Meeting with the University College of Swansea Chemical Society and the Local Section of the Institute of Chemistry. To be held at the Royal Institution of South Wales.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

SCHEME OF CO-OPERATION FOR THE THREE CHARTERED CHEMICAL BODIES.

Fellows were informed in the *Proceedings* for June 1940 that the Scheme of Co-operation for the three Chartered Chemical Bodies formulated by the Chemical Council had received the approval of the Council of the Chemical Society, subject to certain modifications which had been referred to the Chemical Council, and the Scheme, which had been altered in certain minor details, appeared in full in the Official Announcements issued with the *Journal* for August.

At a special meeting of the Council held on September 26th, this modified Scheme was considered, together with a letter from the Chemical Council urging that the Scheme should be finally approved with a view to its coming into operation on January 1st, 1941. The Scheme and the proposed date of operation were unanimously approved by the Council.

The attention of Fellows is especially directed to the fact that the Schedule of prices of publications is subject to modifications found desirable from time to time and to approval by the three participating Organisations.

The question of submitting the Scheme to the general body of Fellows at an Extraordinary General Meeting was also considered. The Scheme, however, neither affects the corporate rights of Fellows under the Charters, nor conflicts with the Bye-Laws, and having this in mind and also the circumstances of the times, it was decided not to hold such a meeting. If, however, a substantial body of Fellows should express disapproval of the Scheme by writing to the Honorary Secretaries so as to reach them not later than **Monday, October 21st, 1940,** the Council are prepared to seek the opinion of Fellows by taking a postal vote of those resident in the British Isles.

If, as is anticipated by the Council, the Scheme meets with the general approval of Fellows, the Common Seal of the Society will be affixed to the Deed of Agreement in due course, and the Scheme will come into operation on January 1st, 1941, subject to similar action being taken by the other two Chartered Chemical Bodies. In that event, each Fellow will be informed in November as to the procedure to be adopted if he wishes to become a joint member.

ADVISORY RESEARCH COUNCIL OF THE CHEMICAL SOCIETY.

The Advisory Research Council of the Chemical Society, which was formed in September 1939 to advise Fellows and others engaged in unremunerated research on subjects for investigation likely to be of value to the Nation at the present time, has received a large number of offers of assistance from Supervisors of Research, and has allocated 158 topics of research. It still finds itself unable, however, to suggest topics to all those who have offered their services, and it would welcome further suggestions, particularly those of a physico-chemical nature.

It is prepared to organise the preparation, in laboratories of Universities and Technical Colleges, of fine chemicals required for any purpose by Government departments, institutions, or services, or even for approved research purposes in other Universities. It is a *sine qua non* that such substances are not available commercially and that the manufacturers of fine chemicals are unable, or do not find it convenient, to meet the need. The arrangement proposed is that the substances shall be made and supplied on a cost-price basis.

PREVENTION OF DISCLOSURE OF UNAUTHORISED INFORMATION AT SCIENTIFIC MEETINGS.

The attention of Fellows is again drawn to the necessity of preventing the unauthorised disclosure of confidential matters which may arise at Scientific Meetings of the Society. Visitors attending these meetings are required to sign the following undertaking :—

> " I undertake to regard the proceedings of this meeting as confidential, and will not make, or aid in, publication of the matters discussed without the authority of the Council."

LIBRARY.

During the continuance of the present disturbed conditions the Library will be closed on Saturdays. As far as circumstances permit it will be open on other weekdays from 10 a.m. to 5 p.m.

RESEARCH FUND.

A meeting of the Research Fund Committee will be held in November next. All persons who have received grants, and whose accounts have not been declared closed by the Committee, are informed that reports must be received by the Society not later than **Friday, November 1st, 1940.**

Applications for grants, to be made on forms obtainable from the General Secretary, must be received on or before November 1st, 1940. Applications from Fellows will receive prior consideration.

Attention is drawn to the fact that the income from the Donation of the Worshipful Company of Goldsmiths is to be principally devoted to the encouragement of research in Inorganic and Metallurgical Chemistry, and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and Allied Industries.

FELLOWS ON ACTIVE SERVICE.

Fellows on Active Service with His Majesty's Forces are asked to notify the General Secretary, giving such particulars as are permissible, as to their rank, unit, etc.

PUBLICATIONS OF THE AMERICAN CHEMICAL SOCIETY.

Fellows of the Chemical Society who are not Members of the American Chemical Society may procure the publications of that Society for 1941 at the following reduced prices:

	Price to Public.	Postage.
(1) *Journal of the American Chemical Society*	$8.50	$1.50
(2) *Chemical Abstracts*	$12.00	$2.40
(3) *Industrial and Engineering Chemistry:*		
(*a*) Industrial Edition (monthly) and Analytical Edition (monthly), sold only as a unit	$4.00	$2.25
(*b*) News Edition (semi-monthly)	$2.00	$0.60
(*a*) and (*b*) together	$6.00	$2.85

A discount of 10 per cent. is allowed on 1 and/or 2 when sent to same address and ordered at the same time as either one of the Society's other two journals. No discount on 3.

A special discount of 10 per cent. off all the above prices (exclusive of postage) is allowed to Fellows of the Chemical Society who are not Members of the American Chemical Society. Fellows residing in Canada pay one-third postage rates and for those residing in countries in the Pan-American Union and Spain there is no charge for postage.

Application should be made direct to the Secretary, American Chemical Society, Mills Building, Washington, D.C., U.S.A., and should reach him by December 31st, 1940.

Chemical Reviews (bi-monthly, 2 vols. per year) ... $4.00 per vol. / $7.00 per year } postage $0.50 per vol.

The Journal of Physical Chemistry (monthly except July, August and September). Price $8.00 per volume, foreign postage $1.00. Price to Public $10.00 plus postage.

Applications for *Chemical Reviews* and the *Journal of Physical Chemistry* should be made to the Williams and Wilkins Company, Mount Royal and Guilford Avenues, Baltimore, Md., U.S.A.

Note.—Permission to remit money abroad must be obtained through a Bank.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, October 14th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Ashworth, Robert de Brath, M.Sc. (N.Z.), A.I.C., British. 1, Victoria Square, Clifton, Bristol, 8. Research work.
Signed by : E. B. Maxted, J. K. N. Jones, E. L. Hirst, G. T. Young, W. T. Springall.

Atherton, William, M.Sc.Tech., M.Ed. (Manc.), F.I.C., British. 21, Welbeck Road, Worsley, Manchester. Science Master, The Grammar School, Hindley.
Signed by : G. N. Burkhardt, Colin Campbell, J. B. M. Herbert.

***Bellamy, Lionel John,** B.Sc., Ph.D. (Lond.), British. 85, Union Road, Clapham, S.W. 4. Chemist.
Signed by : Charles Dorée, J. C. Crocker, F. H. Lowe.

***Dine, John Charles,** B.Sc.Hons. (Lond.), British. 61, Lodge Road, Knowle, Birmingham. Student, King's College.
Signed by : E. W. McClelland, G. M. Bennett, C. S. Salmon.

Evans, Meredith Gwynne, D.Sc. (Manc.), British. Physical Chemistry Department, The University, Leeds, 2. Professor of Physical Chemistry.
Signed by : R. Whytlaw-Gray, F. Challenger, C. K. Ingold.

Gordon, James Joseph, B.Sc., Ph.D. (Lond.), A.I.C., British. 87, Oakfield Road, Newport, Mon. Research Chemist, Biochemical Laboratory of a Mental Hospital.
Signed by : H. B. Watson, J. F. J. Dippy, James E. Page.

***Harriman, Albert Richard,** British. 5, Leicester Road, Anstey, Leicester. Student studying for B.Sc.
Signed by : C. Whitworth, J. M. Connolly, G. Malcolm Dyson.

***Harrison, Gwendolen Hardy,** B.Sc.Hons. (Dun.), British. 2, Bothal Terrace, Ashington, Northumberland. Taking teaching diploma and possibly undertaking further research.
Signed by : Wesley Cocker, Richard Raper, George A. Swan.

Kay, James Arthur, Higher National Certificate (Chemistry). Full Technological Certificate (Sugar Manufacture). British. 80, Birley Street, Newton-le-Willows. Chemist in charge of the Laboratory of a Sugar Company.
Signed by : T. Heap, A. Cooksey, Ernest B. Naylor.

***Little, George Edward,** B.A. (Cantab.), British. Melrose, Reedale Close, Liverpool, 18. Research at Cambridge University.
Signed by : H. McCombie, F. G. Mann, D. Purdie.

Merchant, Shantilal Hiralal, B.Sc. (Bombay), B.Pharm. (Lond.), British Indian. Ram Manor, Nepean Sea Road, Bombay, India. Student.
Signed by : Douglas C. Harrod, J. C. Crocker, F. H. Lowe.

***Moss, Charles Clifford,** B.Sc. (Queen's Univ., Belfast), M.S. (Iowa State College), British. 5, Randal Park, Malone, Belfast. Chemical Research Student.
Signed by : A. W. Stewart, H. Graham, R. C. Pink.

Paige, Mark Frank Critchell, B.Sc.Hons. (Glasgow), British. 17, Cassnock Road, Troon. Research Student.
Signed by : J. W. Cook, David T. Gibson, John Robertson.

Patel, Bhupendra Vallavbhai, B.Sc. (Bombay), with Chemistry Special 2nd Class, B.Pharm. (Lond.), Indian (British Subject). Mani-Nivas, Sayaji Nagar, Baroda, India.
Signed by : Douglas C. Harrod, F. H. Lowe, J. C. Crocker.

Peacock, Tom, M.Sc.Tech. (Manc.), Associate of the Manchester Coll. of Technology. British. 19, Hilbre Road, Milwaine Road, Levershulme, Manchester, 19. Chemist at a factory.
Signed by : W. Bradley, T. K. Walker, G. Bradley.

*** Reduced Annual Subscription.**

***Ralph, Bernard John Frederick,** B.Sc. (Tasmania), A.A.C.I., British. 71, Hampden Road, Hobart, Tasmania. Demonstrator and Assistant Lecturer in Chemistry.
Signed by : E. E. Kurth, David O. Meredith, Geo. C. Israel.

Ruzek, Petr Pavel, Dr. Rerum Tech. Praha, Ingenieur, Diploma Ing. Czech. Chief Chemist to a firm of Manufacturers.
Signed by : Dorothy Jordan Lloyd, M. P. Balfe, A. Houston.

***Ross, Francis Fraser,** B.A., B.Sc. (Oxon.), British. 12, Osborne Road, Enfield. Technical Assistant in Aluminium Refinery.
Signed by : D. Ll. Hammick, B. Lambert, H. Irving, F. M. Brewer.

Smart, Stanley Gordon, Dipl.R.T.C. (Glasgow), British. 196, North Street, Charing Cross, Glasgow. Research Assistant to a Sugar Co.
Signed by : F. J. Wilson, M. M. J. Sutherland, A. B. Crawford.

Spencer, David Jones, Pharmacist. British. Ivy Dene, Aberthin, near Cowbridge. On Technical Staff of a Company.
Signed by : H. B. Watson, J. F. J. Dippy, David P. Evans.

***Stone, Derrick George Harold,** B.Sc.Hons. (Lond.), British. 84, Felinfoel Road, Llanelly. Assistant at Factory.
Signed by : G. M. Bennett, Gwyn Williams, E. W. McClelland.

Symonds, Hubert Henry, British. 52, Roman Road, Coventry. Chief Assistant to a Motor Company.
Signed by : C. B. O. Jones, W. J. Lee-Bird, W. F. Wyley.

Tallis, Ernest Edward, B.Sc. (Lond.), British. 31, Pridmore Road, Coventry. Research Chemist.
Signed by : C. B. O. Jones, W. H. Glover, A. H. Williams.

***Wadsworth, Kenneth Duncan,** B.A.Hons. (Oxon.), British. Trinity College, Oxford. Research Student.
Signed by : C. N. Hinshelwood, Ronald P. Bell, J. H. Wolfenden.

Ward, Peter Fowler, B.Sc. (Lond.), British. Warrenside, Mayfield. Analytical Chemist at a factory.
Signed by : C. K. Ingold, Henry Terrey, E. D. Hughes.

Wheeler, Denis Edward, B.Sc.Hons., Ph.D. (Bristol). Salters Fellow at University of Princeton, U.S.A. British. "Halloween," Grove Avenue, Wilmslow, Cheshire. Chief Chemist to two Companies.
Signed by : G. N. Burkhardt, H. T. Openshaw, J. B. M. Herbert.

Wilson, Paul Ivan, B.Sc.Hons. (Birm.), British. Gateshead-on-Tyne. Engaged on research on synthetic resins.
Signed by : M. Stacey, F. Smith, Stanley Peat.

Wilson, Richard, British. Pringle Bank, Warton, Carnforth. Assistant Chemist.
Signed by : C. R. Pye, Rowland Williams, F. Neville Woodward.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between June 25th and September 27th, 1940. (This list does not include the titles of papers which have appeared in the *Journal*.)

"Molecular compounds of phenylacetic acid and its salts. Part I. A covalent compound of sodium." By M. Crawford.

"The synthesis of the methyl ether of vitamin *A*." By F. B. Kipping and F. Wild.

"Mechanism of polymerisation. Part VI. Heat-polymerisation of methyl sorbate, and the constitution of the dimeric products." By E. H. Farmer and C. R. Morrison-Jones.

"Absorption spectra of hydroxy-aldehydes, hydroxy-ketones, and their methyl ethers." By R. A. Morton and A. L. Stubbs.

"The oxidation of lupenyl esters." By E. R. H. Jones and R. J. Meakins.

"Isotopic exchange reactions of organic compounds. Part V. The kinetics of the isomerisation and deuterium exchange reaction of Δ^{α}-pentenoic acid." By D. J. G. Ives and R. H. Kerlogue.

"Acridine syntheses and reactions. Part I. Synthesis of proflavine from *m*-phenylenediamine and its derivatives." By A. ALBERT.

"The chemistry of quaterphenyl. Part I. Some dihydroxy-derivatives." By J. HARLEY-MASON and F. G. MANN.

"The cyclic methyleneimines. Hydrolysis of quaternary compounds. Preparation of secondary amines. Part III." By J. GRAYMORE.

"Studies of ionisation in non-aqueous solvents. Part IV. The formation of certain ammines in methyl and ethyl acetates and in acetone." By W. L. GERMAN and R. A. JAMSETT.

"The effect of molecular environment on the absorption spectra of organic compounds in solution. Part I. Conjugated dienes." By H. BOOKER, L. K. EVANS, and A. E. GILLAM.

"Physicochemical aspects of bacterial growth. Part VI. The influence of toxic substances on growth rate, stationary population and fermentation reactions of *Bact. lactis aerogenes*." By MISS E. A. POOLE and C. N. HINSHELWOOD.

"Physicochemical aspects of bacterial growth. Part VII. Influence of phenol on the death rate of *Bact. lactis aerogenes*." By MISS E. A. POOLE and C. N. HINSHELWOOD.

"Factors in the stabilisation of emulsions." By A. KING and G. W. WRZESGINSKI.

"A simple cycle for deducing the heat of hydration of the proton." By E. C. BAUGHAN.

"Lanosterol. Part II. Oxidation with chromic acid." By L. J. BELLAMY and C. DORÉE.

"Lanosterol. Part III. The action of selenium dioxide on lanesterol and its derivatives." By L. J. BELLAMY and C. DORÉE.

"Lanosterol. Part IV. The action of perbenzoic acid on lanesterol and its derivatives, and the structure of lanosterol." By L. J. BELLAMY and C. DORÉE.

"The chrystal structure of picryl iodide." By G. HUSE and H. M. POWELL.

"Studies in the light absorption of organic compounds. Part IX. Unsaturated carbonyl compounds and semicarbazones." By A. BURAWOY.

"Triterpene resinols and related acids. Part XI. The oxidation of acetyloleanolic acid and of methyl acetyloleanolate with perbenzoic acid." By F. S. SPRING and C. W. PICARD.

"A note on tetra-acetyl aldehydophenylglucosides." By R. T. WILLIAMS.

"Derivatives of 5 : 6 : 4′- and 5 : 8 : 4′-trihydroxyflavones, and a note on the structure of ginkgetin." By W. BAKER and W. H. C. SIMMONDS.

"Studies in the sterol group. Part XLI. A new epimerisation process." By MISS J. BARNETT, I. M. HEILBRON, E. R. H. JONES, and K. J. VERRILL.

"*Cannabis indica*. Part V. The synthesis of cannabinol." By R. GHOSH, A. R. TODD, and S. WILKINSON.

"Polycyclic hydrocarbons. Part XXVI. 1 : 2 : 3 : 4-Tetramethylphenanthrene." By C. L. HEWETT and R. H. MARTIN.

"The mobility of groups in certain benzonitriles." By C. W. N. HOLMES and J. D. LOUDON.

"Polysubstitution at a cationoid nucleus." By J. D. LOUDON.

"Sapogenins. Part X. The carbon skeleton and the position of the second hydroxyl group of quillaic acid." By G. A. R. KON and P. BILHAM.

"Nitration of the 13-halogenobenzanthrones." By F. H. DAY.

"Physical properties and chemical constitution. Part VI. Some saturated and unsaturated cyano-esters." By D. M. COWAN and A. I. VOGEL.

"Vanadium ion oxidation-reduction potentials." By A. B. HART and J. R. PARTINGTON.

"Complex formation between polynitro-compounds and aromatic hydrocarbons and bases. Part IX. The influence of solvents on the temperature coefficients of colour densities." By D. LL. HAMMICK and MISS R. B. M. YULE.

"A comparison of the copper salts of α- and β-naphthoic acids with their acid potassium compounds." By MISS W. G. WRIGHT.

"The associating effect of the hydrogen atom. Part VII. The N–H–N bond. Derivatives of pyrazole and indazole." By H. T. HAYES and L. HUNTER.

"Carbohydrate sulphuric esters. Part I. Glucose and galactose sulphates." By E. G. V. PERCIVAL and T. H. SOUTAR.

"Studies on cellobiosazone, galactosazone, and other sugar osazones." By J. R. MUIR and E. G. V. PERCIVAL.

"Fructosemethylphenylhydrazone." By W. J. HEDDLE and E. G. V. PERCIVAL.
"Methyl-*o*-toluidine." By D. H. HEY and G. A. R. KON.
"An enol-acetate in the triterpene series." By E. R. H. JONES and K. J. VERRILL.
"Studies in the sterol group. Part XLII. The constitution of zymosterol." By B. HEATH-BROWN, I. M. HEILBRON, and E. R. H. JONES.
"The alleged reduction of the phenylurethanes of trichlorolactic acid and nitrile by dilute aqueous alkali." By H. IRVING and H. MARSTON.
"A determination of the relationship between refractive index and specific rotation in mixtures of 2 : 3 : 4 : 6-tetramethyl α- and β-methyl-*d*-galactosides." By D. J. BELL.
"The preparation of *dl*-asparagine and *dl*-aspartic acid." By W. COCKER.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

CHAMBERS'S Technical dictionary. Edited by C. F. TWENEY and L. E. C. HUGHES. London 1940. pp. viii + 957. (*Reference.*) 15*s.* net. From the Publishers: Messrs. W. & R. Chambers.

DUPAIN, GEORGE ZEPHIRIN. Elementary dietetics. Sydney 1940. pp. 128. ill. (*Recd.* 13/9/40.) From the Author.

LUNGE, GEORGE, and KEANE, C. A. Technical methods of chemical analysis. 2nd edition. Edited by C. A. KEANE and P. C. L. THORNE. Vol. IV. London 1940. pp. xvi + 963. ill. (*Reference.*) 84*s.* net. From the Publishers: Messrs. Gurney & Jackson.

MCDONAGH, J. E. R. The Universe through medicine. London 1940. pp. vi + 389. ill. 25*s.* net. (*Recd.* 29/6/40.) From the Author.

THORPE, [SIR EDWARD]. Dictionary of applied chemistry. 4th edition. Vol. IV. By SIR JOCELYN THORPE and M. A. WHITELEY. London 1940. pp. xxiv + 603. ill. (*Reference.*) 70*s.* net. From Dr. M. A. Whiteley.

II. *By purchase.*

AMERICAN MEDICAL ASSOCIATION. The vitamins: a symposium. Chicago 1939. pp. 637. ill. $1.50. (*Recd.* 30/7/40.)

FEIGL, FRITZ. Specific and special reactions for use in qualitative analysis, with special reference to spot test analysis. Translated from a revision of the 3rd German edition by RALPH E. OESPER. New York 1940. pp. x + 192. $3.50. (*Recd.* 12/7/40.)

MERCK & Co. The Merck index. 5th edition. Rahway, N.J. 1940. pp. viii + 1060. (*Reference.*) $3.

MIALL, STEPHEN. [Editor.] A new dictionary of chemistry. London 1940. pp. xvi + 575. ill. (*Reference.*) 42*s.* net.

RUSSELL, SIR E. J. A student's book of soils and manures. 3rd edition. Cambridge 1940. pp. viii + 296. ill. 8*s.* 6*d.* net. (*Recd.* 26/6/40.)

SLATER, J. C. Introduction to chemical physics. New York 1939. pp. xiv + 521. ill. $5. (*Recd.* 26/6/40.)

WHITE, ALFRED H. Engineering materials. New York 1939. pp. x + 547. ill. $4.50. (*Recd.* 26/6/40.)

III. *Pamphlets.*

BRITISH STANDARDS INSTITUTION. British standard specifications. No. 914—1940. Tests for laboratory porcelain. pp. 7. ill.

CONTI, PIERO GINORI. Il laboratorio ricerche di Larderello. Firenze 1938. pp. 42. ill.

DIEHL, HARVEY. The applications of the dioximes to analytical chemistry. Columbus 1940. pp. 62.

HOLMSIDE & SOUTH MOOR COLLIERIES and SETTLINGSTONES MINES. Witherite (natural barium carbonate) and its industrial uses. Newcastle-upon-Tyne 1940. pp. 56. ill.

KOVACS, A. S., GUGGENHEIM, K., and KLIGLER, I. J. The composition of vegetables, fruits and milk produced in Palestine. Jerusalem 1939. pp. 62.

NATIONAL FIRE PROTECTION ASSOCIATION and AMERICAN CHEMICAL SOCIETY. *Committee on Hazardous Chemicals and Explosives.* A table of common hazardous chemicals. 4th edition. Boston, Mass. 1940. pp. 23.

UNITED STATES. *Department of Labor.* Industrial Health Series. No. 14. The causes and prevention of nitrous fumes poisoning. Washington 1939. pp. 5.

—— —— —— No. 15. The causes and prevention of metal fume fever. Washington 1939. pp. 4.

—— —— —— No. 16. The causes and prevention of ammonia poisoning. Washington 1939. pp. 4.

—— —— —— No. 17. The causes and prevention of manganese poisoning. Washington 1939. pp. 4.

CHNOLOGY DEPT:

October 1940

THE CHEMICAL SOCIETY

MEETINGS OUTSIDE LONDON.

EDINBURGH.

November 26th, 1940, at 6.30 p.m. **Lecture** on "The Chemical Exploration of the Stratosphere," by Professor F. A. Paneth, Ph.D. Joint Meeting with the Edinburgh University Chemical Society, the Institute of Chemistry, and the Society of Chemical Industry, to be held at Heriot-Watt College.

GLASGOW.

November 15th, 1940, at 7 p.m. **Lecture** on "The Structure of Proteins," by Dr. W. T. Astbury. To be held at the Royal Technical College.

MANCHESTER.

November 2nd, 1940, at 2.15 p.m. **Lecture** on "Coal Rank and Structure," by Professor H. L. Riley, D.Sc. Joint Meeting with the Manchester Section of the Society of Chemical Industry and other Societies. To be held in the Chemistry Lecture Theatre of the University.

NEWCASTLE AND DURHAM.

November 22nd, 1940, at 6 p.m. **Lecture** on "The Philosophy of Science," by Professor F. G. Donnan, C.B.E., D.Sc., F.R.S., at the Art School Theatre, King's College.

NOTTINGHAM.

November 14th, 1940, at 6.45 p.m. **Lecture** on "Stereochemistry and Valency Group," by Professor N. V. Sidgwick, C.B.E., D.Sc., F.R.S., before the East Midlands Section of the Institute of Chemistry at the Welbeck Hotel. The attendance of Fellows of the Society is invited.

November 28th, 1940, at 3.30 p.m. **Lecture** on "Bivalent Hydrogen: Some New Aspects of Tautomerism," by Dr. L. Hunter, M.Sc., F.I.C. Joint Meeting with the University College Physical and Chemical Society. To be held at University College, University Park.

ST. ANDREWS AND DUNDEE.

November 25th, 1940, at 4.30 p.m. **Lecture** on "The Chemical Exploration of the Stratosphere," by Professor F. A. Paneth, Ph.D. To be held in the Chemistry Lecture Theatre at University College, Dundee.

SHEFFIELD.

November 8th, 1940, at 5.30 p.m. **Lecture** on "Reactions in Monolayers," by Professor E. K. Rideal, M.B.E., M.A., D.Sc., F.R.S. Joint Meeting with the Sheffield University Chemical Society. To be held in the Chemistry Lecture Theatre of the University, Western Bank.

SOUTH WALES.

In Swansea.

November 9th, 1940, at 3 p.m. **Lecture** on "Fluorine: Some Recent Developments in the Chemistry of the Element and its Derivatives," by Dr. H. J. Emeléus. Joint Meeting with the University College of Swansea Chemical Society.

November 23rd, 1940, at 2.45 p.m. **Lecture** on "Some Aspects of Surface Action," by Professor E. K. Rideal, M.B.E., M.A., D.Sc., F.R.S. Joint Meeting with the University College of Swansea Chemical Society and the Local Section of the Institute of Chemistry.

Both lectures to be held in the Chemistry Lecture Theatre, University College, Swansea.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT GLASGOW, OCTOBER 14th.

A meeting of the Society, in co-operation with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, was held at 5 p.m. on Monday, October 14th, in the University, with Professor F. J. Wilson in the Chair.

Professor E. C. Dodds, M.V.O., D.Sc., delivered a lecture on "Synthetic Œstrogens." The Lecturer showed how the now historical replacement or supplementation of galenicals by synthetic drugs was being repeated with respect to the hormones of the animal organism. The isolation and chemical characterisation of the natural œstrogens led to a systematic search rewarded by the discovery of rather distantly related synthetic materials of similar or even greater potency. The pharmacology of the synthetic œstrogens was discussed, and some points in their metabolism referred to.

A discussion followed, and a vote of thanks, proposed by Professor J. W. Cook, was carried with acclamation.

LECTURE AT LEEDS, OCTOBER 14th.

A meeting of the Leeds Area Local Section was held in the General Lecture Theatre of the University of Leeds on Monday, October 14th, 1940, at 7.30 p.m. The Chair was taken by Professor F. Challenger, D.Sc., F.I.C., and Professor R. D. Haworth, D.Sc., F.I.C., delivered a lecture entitled "The Constituents of Natural Phenolic Resins." After dealing with the methods by which the various typical structures of the resinols had been determined by degradation, the lecturer illustrated how these structures had been confirmed by synthesis. He then dealt with the stereochemical aspects of the problem, and concluded with a brief discussion of the biogenetic and structural relationships of the lignan group of lignin.

A discussion followed in which the Chairman and several members took part, and the meeting concluded with a vote of thanks to the lecturer proposed by Mr. W. A. Wightman.

OFFICIAL ANNOUNCEMENTS

SCHEME OF CO-OPERATION FOR THE THREE CHARTERED CHEMICAL BODIES.

It was stated in the *Proceedings* for September that unless a substantial body of Fellows wrote by October 21st expressing disapproval of the Scheme of Co-operation for the three Chartered Chemical Bodies, it would duly come into operation, provided that similar action were taken by the other two Chartered Chemical Bodies.

The Council have heard from the Institute of Chemistry and the Society of Chemical Industry that the Scheme has been finally accepted by them. It is now evident that the Scheme also has the approval of Fellows of the Society, and it will, therefore, come into operation on January 1st, 1941. A further communication will be sent to Fellows in November.

DEATHS.

The President deeply regrets to announce the loss sustained by the Society, through death, of the following:

Honorary Fellow.

	Elected.	Died.
Sir Joseph J. Thomson, O.M., F.R.S.	1927	August 30th, 1940.

Fellows.

Nelson Alcock	1928	September, 1939.
Sir Harold Carpenter	1899	September 13th, 1940.
Albert J. B. Cooper	1898	July 26th, 1940.
Alexander C. Cumming	1910	September 28th, 1940.
Thomas S. Dick	1912	August 16th, 1940.
Charles G. Eliot	1938	July 19th, 1940.
Sir Robert Hadfield, Bt.	1916	September 30th, 1940.
Edward Haworth	1894	June 14th, 1940.
Edgar N. Langham	1891	June 21st, 1940.
Percy G. Mander	1903	July 15th, 1940.
Robert H. Parker	1882	September 14th, 1940.
William C. Reynolds	1898	March 20th, 1940.
Morris M. Stranack	1926	May 16th, 1940.
Hugh W. Thomas	1915	May 28th, 1940.
Norman T. M. Wilsmore	1892	June 12th, 1940.
Max Wyler	1933	July 22nd, 1940.

PUBLICATIONS GRANTS.

The Council have received a grant of £550 from the Government Publications Grant towards the cost of the Society's publications for 1940, and also a grant of £150 from the Chemical Council towards the cost of publishing summaries of papers in the Journal.

ACKNOWLEDGMENTS.

The Council have to acknowledge gifts of the Society's publications received from Messrs. A. C. Cumming, C. Fuller, P. J. Garner, L. M. Nash, H. E. Stevenson, N. Garrod Thomas, Mrs. O. Gatty, and Imperial Chemical Industries, Ltd., to whom their thanks have been conveyed.

FELLOWSHIP.

The resignations of 30 Fellows have been accepted and the names of 45 Fellows have been removed from the List of Fellows for non-payment of Annual Subscriptions under Bye-Law 15. 3 Fellows have been reinstated and the following 28 new Fellows have been elected:

Robert de Brath Ashworth.
William Atherton.
Lionel John Bellamy.
John Charles Dine.
Meredith Gwynne Evans.
James Joseph Gordon.
Albert Richard Harriman.
Gwendolen Hardy Harrison.
Spencer David Jones.
James Arthur Kay.
George Edward Little.
Shantilal Hiralal Merchant.
Charles Clifford Moss.
Mark Frank Critchell Paige.
Bhupendra Vallavbhai Patel.
Tom Peacock.
Bernard John Frederick Ralph.
Francis Fraser Ross.
Petr Pavel Ruzek.
Stanley Gordon Smart.
Derrick George Harold Stone.
Hubert Henry Symonds.
Ernest Edward Tallis.
Kenneth Duncan Wadsworth.
Peter Fowler Ward.
Denis Edward Wheeler.
Paul Ivan Wilson.
Richard Wilson.

GENERAL ANNOUNCEMENT

QUINQUENNIAL INDEX, 1933—1937.

The Bureau of Chemical and Physiological Abstracts hopes to issue the Names Volume of the Quinquennial Index for 1933—1937 early in December, 1940.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, 11th November. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Dostrovsky, Israel,** B.Sc. (Lond.), Palestinian. Edward Davies Chemical Laboratories, Aberystwyth. Research student.
Signed by: C. K. Ingold, E. D. Hughes, Henry Terrey.

Holmes, Cedric William Nelson, B.Sc. (Glasgow), British. 26, Roman Road, Bearsden, Glasgow. Research Student at Glasgow University.
Signed by: J. D. Loudon, T. S. Patterson, T. S. Stevens.

***Kennaway, Thomas,** B.Sc., 1st Class Hons. Chemistry (Edin.), British. 29, Townhall Street, Inverkeithing, Fife. Research Student at Edinburgh University.
Signed by: James Kendall, H. Gordon Rule, Mowbray Ritchie, Christina C. Miller, T. R. Bolam, E. G. V. Percival.

***Hemming, Mabel Louie,** B.Sc. Hons. Chemistry and Ph.D. (Leeds), British. c/o Mrs. Hobson, 58, Sandygate Road, Sheffield, 10. Temporary Assistant Lecturer in Physical Chemistry at Sheffield University.
Signed by: J. W. Baker, D. A. Wightman, H. Burton.

Swallow, John Eric Langley, B.Sc. (Reading), British. 18, College Road, Maidenhead. Shortly to be employed as Chemist.
Signed by: James Starr, K. S. Fowler, W. G. S. Parker.

***Smith, John Norman,** B.Sc. Hons. in Biochemistry (Liverpool), British. 4, Huyton Lane, Huyton.
Signed by: Robert Gaddie, John V. Loach, V. J. Occleshaw.

Southern, Thomas Alan Robert, B.Sc. Special Chem. (London), British. 36, Park View, Eagley Bank, Bolton. Assistant Works Manager in a Factory in India.
Signed by: G. T. Young, E. L. Hirst, D. Routledge, T. Malkin.

Erratum. In *Proceedings* for September, page 38, for **Spencer, David Jones,** read **Jones, Spencer David.**

* **Reduced Annual Subscription.**

PAPERS RECEIVED

List of papers received between September 28th and October 24th, 1940:

"Dunnione. Part II." By J. R. Price and Sir R. Robinson.

"Studies in the statics of solutions. Part I. Molecular interaction in polar liquids." By E. A. Moelwyn-Hughes.

"Studies in the statics of solutions. Part II. Intracellular vibration frequencies of hydrated ions." By E. A. Moelwyn-Hughes.

"Studies in the statics of solutions. Part III. The standard electrode potential." By E. A. Moelwyn-Hughes.

"Chromones of the naphthalene series. Part III. Rapid quantitative transformation at room temperature of *o*-aroyloxyacetoarones into *o*-hydroxydiaroylmethanes." By V. V. Ullal and T. S. Wheeler.

"Studies on seed mucilages. Part I. A preliminary examination of the mucilaginous polysaccharides of the seeds of *Plantago lanceolata*." By J. MULLAN and E. G. V. PERCIVAL.

"Constituents of the petroleum extracts of zea maiz stigmas." By A. ZAKI.

"Constituents of the higher fungi. Part II. The unsaturated system of polyporenic acid A." By L. C. CROSS and E. R. H. JONES.

"The constitution of pectic acid. Part III." By MISS S. LUCKETT and F. SMITH.

"Samarium selenate and its solubility in water." By J. NEWTON FRIEND.

"Attempts to prepare 7-substituted *bicyclo*-1 : 2 : 2-aza-1-heptanes." By G. R. CLEMO and E. HOGGARTH.

"A determination of molecular symmetry in the diethyl dibenzyl series." By C. H. CARLISLE and MISS D. M. CROWFOOT.

"The composition of the Ponndorf–Meerwein reduction product of mesityl oxide." By J. KENYON and D. P. YOUNG.

"Experiments with thioacetals and related substances. Part I. The polar effect of sulphur in thioacetals." By E. ROTHSTEIN.

"Experiments with thioacetals and related substances. Part II. The reaction between α-bromopropaldehyde diethylacetal and ethylthiol." By E. ROTHSTEIN.

"Experiments with thioacetals and related substances. Part III. Comparison of the polar effect of sulphur with that of oxygen and nitrogen." By E. ROTHSTEIN.

"Influence of poles and polar linkings on tautomerism in the simple three-carbon system. Part VI. Unbalanced systems." By E. ROTHSTEIN.

"Retention of asymmetry during the Curtius and Beckmann changes." By J. KENYON and D. P. YOUNG.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

IMPERIAL INSTITUTE. *Plant and Animal Products Department.* A survey of insecticide materials of vegetable origin. Edited by H. J. HOLMAN. London 1940. pp. vi + 155. 3*s*. 6*d*. net. (*Recd*. 11/10/40.)
From the Director.

SMITH, T. B. Analytical processes: a physico-chemical interpretation. 2nd edition. London 1940. pp. viii + 470. ill. 18*s*. net. (*Recd*. 18/10/40.) From the Publishers: Messrs. Edward Arnold & Co.

III. *Pamphlets.*

BORAX CONSOLIDATED, LTD. Ceramic glazes. By FELIX SINGER. London [1940]. pp. 95.

BRITISH STANDARDS INSTITUTION. British Standard Specifications. No. 866—Part II—1940. War emergency. Schedule of sizes of tins and cans for commodities other than food products for British packers in the United Kingdom for the home trade. pp. 15. ill.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH. The industrial application of *X*-ray crystal analysis. Facilities provided by the National Physical Laboratory. London 1934. pp. 14. ill.

TECHNOLOGY DEPT.

 1/15/41

THE CHEMICAL SOCIETY

MEETING OUTSIDE LONDON.

SOUTH WALES.

In Swansea.

January 16th, 1941, at 6.30 p.m. **Lecture** on "The Combustion of Gaseous Hydrocarbons" by Mr. A. R. Ubbelohde, M.A., B.Sc. Joint Meeting with the Local Section of the Institute of Petroleum. To be held at the Royal Institution of South Wales, Swansea.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT BIRMINGHAM, OCTOBER 22nd.

A joint meeting with the Birmingham University Chemical Society was held in the Chemistry Department of the University at 11.30 a.m. on October 22nd, 1940. Professor W. N. Haworth, F.R.S., presided, and introduced the lecturer, Professor R. D. Haworth of the University of Sheffield, who spoke on "The Constituents of Natural Phenolic Resins." The lecturer gave a succinct account of a difficult field of research, which his own work has done so much to illuminate. The conformity of the natural resins to a simple basic structure was admirably emphasised and the mobilisation of resources for the synthesis of resins brilliantly and modestly described. A vote of thanks proposed by Dr. S. Peat and seconded by Dr. M. Stacey was carried with acclamation.

LECTURE AT GLASGOW, NOVEMBER 15th.

A meeting of the Society, in co-operation with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, was held at 7 p.m. on Friday, November 15th, in the Royal Technical College, with Professor F. J. Wilson in the Chair.

Dr. W. T. Astbury, F.R.S., delivered a lecture on "The Structure of Proteins." The Lecturer discussed the polypeptide nature of proteins and their classification in the light of their X-ray diffraction patterns. The properties of the different types of fibrous proteins were related to the configurations of their polypeptide chains. The structure of the globular proteins and the process of denaturation were considered, and the fine structure of recent X-ray photographs referred to an ideal stoicheiometrical arrangement of amino-acids. Finally the Lecturer observed that in the borderland between living and non-living—viruses and chromosomes—were complex nucleoproteins.

A discussion followed, and a vote of thanks, proposed by Professor W. M. Cumming, was carried with acclamation.

LECTURE AT LIVERPOOL, OCTOBER 31st.

"A Lecture on Recent Work on the Chemotherapy of Protozoal Infection," by Professor Warrington Yorke, was given in the Muspratt Lecture Theatre, The University, Liverpool, on Thursday, October 31st, 1940, at 4 p.m. Professor T. P. Hilditch in the Chair.

The specific curative properties of cinchona bark against malaria were ultimately traced to the alkaloid quinine. This led to a search for drugs with curative properties in other parasitic diseases.

Arsenic was found to arrest the development of sleeping-sickness parasites, but at the same time was fatal to the host. An examination of a variety of organic arsenic compounds led to the discovery that atoxyl was specific and much less toxic.

This discovery led Ehrlich to conduct his well-known researches on aromatic arsenicals with the ultimate production of salvarsan and neo-salvarsan—two powerful antisyphilitic drugs.

Attention was next turned to other parasitical diseases, where it was found that arsenicals were not effective, but that tartar emetic had some beneficial effect. Organic antimonials were accordingly investigated and suitable aromatic compounds discovered.

Many conflicting but unsupported theories were held as to the nature of the physiological effects of these various drugs, and the Liverpool School of Tropical Medicine, in investigating this important problem, showed that arsenic compounds are reduced from the penta- to the tri-valent state in the host.

A disadvantage was discovered in the arsenicals and antimonials in that, should any of the parasites survive, they ultimately became immune from the effects of these drugs, even when transplanted to a fresh host.

Other types of compound were therefore sought, a lead being given by the observation that synthelin had a beneficial effect in Kalasar. This was at first attributed to the reduction of the blood-sugar content, for which the parasite had a great affinity.

Similar long-chain diaminated substances were tried, until finally diguanidinostilbenes proved to be the most satisfactory.

LECTURE AT SWANSEA, NOVEMBER 9th.

A meeting of the Society was held, jointly with the University College of Swansea Chemical Society, at 3 p.m. on Saturday, November 9th, in the Chemistry Lecture Theatre, University College, Swansea, with Professor J. E. Coates, Local Representative, in the Chair. Members of other chemical societies had been invited, and an audience of sixty assembled to hear Dr. H. J. Emeléus deliver a lecture on "Fluorine: some Recent Developments in the Chemistry of the Element and its Derivatives." The lecturer described the methods of preparing and manipulating the element, and the technique of the preparation and purification of many of its compounds. After describing in some detail the recent advances in our knowledge of the inorganic derivatives of fluorine, he dealt briefly with some aspects of its organic chemistry, and concluded with a reference to the electrochemistry of hydrogen fluoride. A discussion followed in which Mr. A. R. Ubbelohde, Mr. E. E. Ayling, Dr. L. E. Hinkel, Dr. C. A. Seyler, and Mr. G. E. Coates took part. A cordial vote of thanks to the lecturer was proposed by Mr. A. R. Ubbelohde, seconded by Mr. R. H. Davies, and carried with acclamation.

LECTURE AT SWANSEA, NOVEMBER 23rd.

A meeting of the Society was held jointly with the Local Section of the Institute of Chemistry and the University College of Swansea Chemical Society at 3 p.m. on Saturday, November 23rd, in the Chemistry Lecture Theatre, University College, Swansea, with Professor J. E. Coates, Local Representative, in the Chair. Professor E. K. Rideal delivered a lecture on "Some Aspects of Surface Action." After a brief indication of the experimental methods employed in his researches, the lecturer showed how the observation of phase-boundary potentials and surface pressures in monolayers brings out details of reaction mechanism inaccessible by other means. In this way, to the field of surface physics has been added that of two-dimensional chemistry, and the remarkable advances of knowledge already gained hold out great promise not only for physical and organic chemistry, but also for biochemistry, to the study of which this method of investigating organised surfaces contributes a new and direct approach. A short discussion followed, in which Sir Robert Robertson and Mr. G. E. Coates took part. A cordial vote of thanks to the lecturer was proposed by Sir Robert Robertson, seconded by Dr. L. E. Hinkel, and carried with acclamation. There were fifty-eight persons present.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Arthur G. Bloxam	1888	November, 1940.
Edward W. Lucas	1905	September 16th, 1940.
William Lash Miller	1898	September 1st, 1940.
Edward C. Worden	1903	September 22nd, 1940.

and at their meeting on November 21st passed the following resolution regarding the death of Sir Joseph J. Thomson, O.M., F.R.S., Honorary Fellow, whose death was announced in the *Proceedings* for October:

"The President, Officers, and Council of the Chemical Society learned with profound regret at their meeting on November 21st, 1940, of the death on August 30th of Sir Joseph

J. Thomson, O.M., F.R.S., who was elected an Honorary Fellow of the Society on November 3rd, 1927.

"J. J. Thomson has achieved immortal fame in the World of Science as the discoverer of the electron and as a pioneer whose discoveries laid the foundations of modern Physics and exerted a profound and lasting influence on the development of chemistry. He will ever be remembered as a great experimentalist, as a great teacher, and as one whose outstanding personal qualities endeared him to all those with whom he came into contact. His enthusiasm for research and his genius for discovery served as an inspiration to the young men who were attracted to the Cavendish Laboratories from all parts of the world.

"By his death, Science in this country and throughout the world has suffered an irreparable loss. The Council mourn their distinguished Honorary Fellow, and express their deep sympathy to Lady Thomson."

LOCAL REPRESENTATIVE.

Dr. E. G. V. Percival, Chemistry Department, King's Buildings, West Mains Road, Edinburgh, has accepted the office of Local Representative for Edinburgh in the place of Dr. J. A. V. Butler.

ACKNOWLEDGMENT.

The Council have expressed their thanks to Mr. J. W. Peck for the presentation of volumes of the Society's publications.

RESEARCH GRANTS.

The Council have made the following grants from the Research Fund:

	£	s.	d.	£	s.	d.
GLASGOW UNIVERSITY.						
Dr. S. H. Tucker. "Synthesis of methylated fluoranthenes." ...	10	0	0			
				10	0	0
LEEDS UNIVERSITY.						
Dr. F. R. Goss. "Solvent effect in the electric polarisation of liquids"	10	0	0			
Dr. E. Rothstein. "Influence of poles in the simple three-carbon system (*continued*)"	10	0	0			
				20	0	0
LEICESTER, UNIVERSITY COLLEGE.						
Dr. L. Hunter. "The associating effect of the hydrogen atom" ...	10	0	0			
				10	0	0
LONDON, UNIVERSITY COLLEGE.						
Dr. E. D. Hughes. "Reaction mechanism"	20	0	0			
Miss A. R. Barratt. "Ionisation of alkyl chlorides	10	0	0			
Miss M. Brewer. "Addition to olefins"	10	0	0			
Mr. I. Dostrovsky. "Reactivity of certain organic halides" ...	10	0	0			
Miss N. Herzfeld. "Spectroscopy of isotopically related molecules"	10	0	0			
Miss R. Mygind. "Mechanism of replacement of ·OH by halogen"	10	0	0			
				70	0	0
SOUTHAMPTON, UNIVERSITY COLLEGE.						
Mr. E. Cartmell. "The Raman effect and its applications to petrol analysis"...	10	10	0			
				10	10	0
				£120	10	0

LIBRARY.

Until further notice the Library is open on weekdays from 10 a.m. to 4 p.m., except on Saturdays, when it is entirely closed.

For the Christmas Holidays the Library will be closed on Christmas Day and Boxing Day only.

FELLOWSHIP.

The resignations of 3 Fellows have been accepted, 1 Fellow has been re-instated, and the following 7 new Fellows have been elected :

Israel Dostrovsky.
Mabel Louie Hemming.
Cedric William Nelson Holmes.
Thomas Kennaway.
John Norman Smith.
Thomas Alan Robert Southern.
John Eric Langley Swallow.

GENERAL ANNOUNCEMENTS

PHYSICAL SOCIETY COLOUR GROUP.

The Council wish to draw the attention of Fellows to the recent formation of the Physical Society Colour Group, which has as its objects :

(i) To provide an opportunity for the various groups of people concerned with colour—physicists, chemists, industrialists, etc.—to meet and become familiar with each other's problems.

(ii) To enable a representative opinion to be formed on various questions of standardisation, specification, nomenclature, etc.

(iii) Generally to encourage colorimetric investigations and to ensure that this country shall keep abreast of developments abroad.

The Group will hold meetings and organise such other activities as may best achieve the above objects, and will be governed by a Committee to be elected by members of the Group subject to the approval of the Council of the Physical Society.

Fellows of the Society are eligible to become members of the Colour Group. The annual subscription is five shillings, and a schedule of " block subscriptions " may be applied to each case in which a large number of members of any one Society become members of the Group.

Further particulars and forms of application for membership may be obtained from Mr. H. D. Murray, Honorary Secretary, Physical Society Colour Group, 1, Lowther Gardens, Exhibition Road, S. Kensington, London, S.W. 7.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, December 16th, 1940. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Alexander, Peter,** British. 57, Richmond Hill Court, Richmond, Surrey. Student at the Imperial College, South Kensington.
Signed by : H. J. T. Ellingham, L. S. Theobald, H. V. A. Briscoe.

***Barratt, Audrey Ruth,** B.Sc. (Lond.), British. Holborn House, Queens Road, Aberystwyth. Research Student.
Signed by : H. G. Poole, E. D. Hughes, J. N. E. Day.

***Brewer, Marion Grenfell,** B.Sc. (Lond.), British. Greentrees, Maidenhead Court, Berks. Research Student.
Signed by : H. G. Poole, E. D. Hughes, J. N. E. Day.

***Crowther, Albert Frederick,** B.A.Hons. (Cantab.), British. 15, Industrial Street, Todmorden. Research Student.
Signed by : F. G. Mann, J. Chatt, D. Purdie.

***Draper, Alfred John Mountfort,** National Certificate in Chemistry, British. Analytical Chemist.
Signed by : E. B. R. Prideaux, Conmar Robinson, M. P. Balfe.

* Reduced Annual Subscription.

Foulds, Harold, M.P.S., British. Drayton, Cambridge Road, Rathmines, Dublin. Chief Chemist, Paines & Byrne, Ltd.
Signed by : Thos. J. Nolan, A. G. G. Leonard, A. O'Farrelly.

***Gaunt, Jack,** British. Sherburn, Church Lane, Adel, Leeds, 6. Student at Leeds University.
Signed by : J. W. Baker, F. R. Goss, W. Wild.

***Hawkins, Stanley Wallace,** British. Magdalen College, Oxford. Student.
Signed by : F. E. King, J. C. Smith, W. Baker.

Heppenstall, Mollie Eileen, B.Sc. and Ph.D. (Lond.), British. 236, Stanley Park Road, Carshalton, Surrey. Research Assistant.
Signed by : Samuel Smiles, Dorothy Jordan Lloyd, M. P. Balfe.

***Herzfeld, Nora,** B.Sc., 2nd Class Hons. (Lond.), British. The Edward Davies Chemical Laboratories, Aberystwyth. Research Student.
Signed by : C. K. Ingold, E. D. Hughes, H. G. Poole.

***Mygind, Rina Katherina Elisabeth,** B.Sc. (Lond.), British. Edward Davies Chemical Laboratories, Aberystwyth. Research Student.
Signed by : E. D. Hughes, Henry Terrey, J. N. E. Day.

***Stickings, Charles Ewart,** B.Sc. (Lond.), British. Garth, Prospect Street, Aberystwyth. Research Student.
Signed by : H. G. Poole, E. D. Hughes, J. N. E. Day.

***Thorp, James Harold,** B.Sc.Hons. (Lond.), British. 16, Harrowby Lane, Grantham. Research Student at University College, Nottingham.
Signed by : J. Masson Gulland, F. R. Bradbury, J. C. Roberts.

***Tivey, David John,** Inter B.Sc. and Subsiduary (Physics), British. Woodside, Willesley Road, Ashby-de-la-Zouch. Student at Loughborough College.
Signed by : J. M. Connolly, H. Turner, A. R. Harriman, G. E. Charlish.

UNDER SPECIAL PROVISIONS APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Slater, Stanley Nelson, M.Sc. (N.Z.), D.Phil. (Oxon.), A.I.C., A.N.Z.I.C., British. Chemistry Department, University of Otago, Dunedin, New Zealand. Assistant Lecturer in Chemistry.
Signed by : F. G. Soper, G. H. Carter.

Steacie, Edgar William Richard, M.Sc. and Ph.D. (McGill.), British. National Research Laboratories, Sussex Street, Ottawa, Canada. Director, Division of Chemistry, National Research Laboratories.
Signed by : G. S. Whitby.

PAPERS RECEIVED

List of papers received between October 25th and November 25th, 1940.

"The preparation of some derivatives of sulphanilamide." By W. Cocker.

"Further experiments on the oxidation of alkyl telluride." By M. P. Balfe and K. N. Nandi.

"The condensation of halogeno-pyridines, -quinolines, and -*iso*quinolines with sulphanilamide." By M. A. Phillips.

"Benzanthrones. Part IV. The synthesis of 2- and 4-methyl-1-phenylnaphthalene-2'-carboxylic acid. The conversion of benzfluorenones into benzanthrones." By F. G. Baddar.

"Catalytic toxicity and chemical structure. Part VII. Elimination of catalyst poisons by conversion into derivatives of shielded type." By E. B. Maxted and R. W. D. Morrish.

"The properties of 3 : 6-anhydroglucose." By W. N. Haworth, L. N. Owen, and F. Smith.

* Reduced Annual Subscription.

"1-Methoxytriphenylene and 2-methoxytriphenylene." By W. S. RAPSON.
"The elimination of formaldehyde in the analysis of formaldehyde–formic acid mixtures." By A. HICKLING and F. RODWELL.
"The action of periodic acid on glucosamine derivatives." By A. NEUBERGER.
"The preparation of 3-methylglucosamine." By A. NEUBERGER.
"The synthesis of 1-methyl-6-*iso*propylphenanthrene." By S. N. SLATER.
"Polycyclic aromatic hydrocarbons. Part XXVII." By G. M. BADGER, F. GOULDEN, and F. Ll. WARREN.
"The structure of the nitroindazoles and their methyl ethers. By I. M. BARCLAY, N. CAMPBELL, and G. DODDS.
"Triterpene resinols and related acids. Part XII. The oxidation of β-amyradienyl acetate I with selenium dioxide, a new route to Jacob's ketodiol, $C_{30}H_{44-46}O_3$." By C. W. PICARD and F. S. SPRING.
"The dehalogenation of 6-chloro-3-benzoyloxy-Δ^4-cholestene." By F. S. SPRING and G. SWAIN.
"The Adamkiewicz, Hopkins and Cole, and Rosenheim tests for tryptophan. An investigation of the configuration of the organic molecule responsible for the colour formation and its bearing on the constitution of yohimbine, with a note on the action of formaldehyde on tryptophan." By D. G. HARVEY, E. J. MILLER, and W. ROBSON.
"The organic compounds of gold. Part VIII. Dialkyl gold derivatives of dibasic acids." By C. S. GIBSON and W. T. WELLER.
"The organic compounds of gold. Part IX. The structure of tetraethylsulphatodigold (diethylgold sulphate), $(Et_2Au)_4(SO_4)_2$. By R. V. G. EWENS and C. S. GIBSON.

ADDITIONS TO THE LIBRARY

I. *Donations.*

ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS. Official and tentative methods of analysis. 5th edition. Washington 1940. pp. xii + 757. ill. $5. (*Recd.* 31/10/40.) From the Association.

FRANCIS, WILFRID. Boiler house and power station chemistry. London 1940. pp. xii + 203. ill. 15*s*. net. (*Recd.* 18/11/40.) From the Publishers: Messrs. Edward Arnold & Co.

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT. *Medico-Chemical Research Laboratories.* Medicine in its chemical aspects. Vol. III. Leverkusen 1938. pp. 416. ill. (*Recd.* 31/10/40.) From Dr. K. Wallersteiner.

MARTIN, HUBERT. The scientific principles of plant protection with special reference to chemical control. 3rd edition. London 1940. pp. x + 385. 22*s*. 6*d*. net. (*Recd.* 18/11/40.) From the Publishers: Messrs. Edward Arnold & Co.

II. *Pamphlets.*

BRITISH STANDARDS INSTITUTION. British Standard Specifications. No. 902—1940. Methods of testing latex, raw rubber, and unvulcanised compounded rubber. pp. 29. ill.

—— —— No. 903—1940. Methods of testing vulcanised rubber. pp. 74. ill.

BRITISH STANDARDS INSTITUTION. British Standard Specifications. War emergency. No. 909—1940. Vitamins A and D in oil for animal feeding purposes. pp. 15.

—— —— —— No. 910—1940. Controlled cod-liver oil mixture for animal feeding purposes. pp. 15.

—— —— —— Nos. 925–926—1940. Oils, thinners, driers, and extenders. pp. 30.

—— —— —— Nos. 927–928—1940. Pigments: white, black, and coloured. pp. 23.

—— —— —— No. 929—1940. Ready mixed paints, priming paint, undercoating paints, finishing coat paints—oil glass. pp. 15. ill.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH. Methods for the detection of toxic gases in industry. Leaflet No. 12. Organic halogen compounds. pp. 6.

—— *Fuel Research.* Physical and chemical survey of the national coal resources, No. 44. Methods of analysis of coal and coke. pp. vi + 85. ill.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND. Lecture on "The mechanism of enzyme action." By J. H. QUASTEL. pp. 27.

MINISTRY OF AGRICULTURE AND FISHERIES. Fishery Investigations. Series 1, Vol. IV, No. 2. Chemical methods for the study of river pollution. By C. H. ROBERTS, J. GRINDLEY and E. H. WILLIAMS. London 1940. pp. 36. ill.

TECHNOLOGY DEPT.

December 1940.

1/29/41

THE CHEMICAL SOCIETY

MEETING IN LONDON.

Chemical Society, Burlington House, Piccadilly, W. 1. Thursday, February 6th, 1941, at 1.45 p.m. **Lecture** on " Plasticisers " by Mr. F. W. Clark, B.Sc., F.I.C. Joint meeting of the Chemical Society and the Plastics Group of the Society of Chemical Industry.

MEETINGS OUTSIDE LONDON.

BRISTOL.

February 13th, 1941, at 6.30 p.m. **Tilden Lecture** on " Vitamins of the B Group " by Professor A. R. Todd, D.Sc., D.Phil. To be held in the Chemistry Lecture Theatre of the University.

EDINBURGH.

January 27th, 1941, at 7.15 p.m. **Lecture** on " Nucleic Acids " by Professor J. M. Gulland, M.A., D.Sc. Joint meeting with the Institute of Chemistry and the Society of Chemical Industry to be held at the North British Station Hotel.

February 24th, 1941, at 7.15 p.m. **Tilden Lecture** on " Some Problems in Macromolecular Chemistry " by Professor H. W. Melville, D.Sc., Ph.D. To be held at the North British Station Hotel.

GLASGOW.

February 21st, 1941, at 7 p.m. **Lecture** on " Correlations between Cancer-producing Compounds " by Professor J. W. Cook, D.Sc., F.R.S. To be held in the Societies' Room of the Royal Technical College.

LIVERPOOL.

February 13th, 1941, at 4 p.m. **Lecture** on " Some Chemical Aspects of Modern Bacteriological Research " by Professor H. D. Wright, B.A., M.D., D.Sc. Joint meeting with the Liverpool University Chemical Society to be held in the Lecture Theatre of the University.

NORTH WALES.

February 7th, 1941, at 5.30 p.m. **Lecture** on " The Chemistry of Rottlerin and Related Topics " by Professor A. Robertson, M.A., B.Sc., Ph.D. Joint meeting with the University College of N. Wales Chemical Society, to be held in the Chemistry Lecture Theatre of the College, Bangor.

SHEFFIELD.

February 28th, 1941, at 5.30 p.m. **Lecture** on " Diazotisation " by Professor J. Kenner, D.Sc., F.R.S. To be held in the Chemistry Lecture Theatre of the University, Western Bank.

SOUTH WALES.

In Cardiff.

February 15th, 1941, at 3 p.m. **Lecture** on " Disinfectants " by Mr. N. Berry, B.Sc., A.I.C. Joint meeting with the Institute of Chemistry and the Society of Chemical Industry. To be held in the Chemistry and Physics Lecture Theatre, University College of South Wales.

In Swansea.

January 16th, 1941, at 6.30 p.m. **Lecture** on " The Combustion of Gaseous Hydrocarbons " by Mr. A. R. Ubbelohde, M.A., B.Sc. Joint meeting with the Local Section of the Institute of Petroleum. To be held in the Chemistry Lecture Theatre, University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT CARDIFF, DECEMBER 7th.

A meeting of the Society was held jointly with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry at 3 p.m., on Saturday, December 7th, at the University College, Cathays Park, Cardiff, when Mr. W. D. Williams, B.Sc., A.M.I.Chem.E. delivered a lecture on "Some New Developments in the Petroleum Industry." After describing the applications of cracking, polymerisation, and hydrogenation processes in the manufacture of motor spirit, the lecturer dealt with the successful attempts at the preparation of pure hydrocarbons of high octane number, and in conclusion, discussed the syntheses of a variety of organic compounds from hydrocarbons having their origin in petroleum. An interesting discussion followed, and among the contributors were Dr. N. M. Cullinane (Chairman), Mr. P. V. Lloyd, Dr. D. P. Evans, and Dr. J. F. J. Dippy. A cordial vote of thanks to the lecturer was proposed by Mr. F. Kernick, seconded by Mr. P. V. Lloyd, and carried with acclamation.

LECTURE AT DUNDEE, NOVEMBER 25th.

A meeting of the Society was held in University College, Dundee, at 4.30 p.m. on Monday, November 25th, with Professor Alexander McKenzie, F.R.S., in the chair. Invitations to attend the meeting were sent to St. Andrews University Chemical Society, to Chemists living in Dundee and district, and to Students in the Chemistry Department. Professor F. A. Paneth, Ph.D., gave a lecture on "The Chemical Exploration of the Stratosphere." The Lecturer described the types of apparatus that were used in the investigation of the Chemical composition of the Stratosphere at different heights, and showed the results that had so far been obtained by their use. The lecture was illustrated by lantern slides. A cordial vote of thanks to the lecturer was proposed by Professor W. F. K. Wynne-Jones and carried with acclamation.

LECTURE AT EDINBURGH, NOVEMBER 26th.

A joint meeting of the Society with the Local Sections of the Institute of Chemistry and Society of Chemical Industry, and the Edinburgh University Chemical Society, was held in the Biochemical Lecture Theatre of the University, Teviot Place, at 6.30 p.m., with Mr. R. M. Burnett in the Chair.

Professor F. A. Panèth, Ph.D., gave a stimulating address on "The Chemical Exploration of the Stratosphere," in which he discussed the significance of the distribution of helium, oxygen, and ozone. Professor James Kendall, Professor Max Born, and Dr. E. B. Ludlam contributed to the discussion, and a vote of thanks to the lecturer proposed by Mr. J. W. Minnis was received with enthusiasm.

LECTURE AT NOTTINGHAM, NOVEMBER 28th.

A lecture was delivered by Dr. L. Hunter at a meeting of the Society, held conjointly with the Nottingham University College Physical and Chemical Society, on Thursday, November 28th, at 3.30 p.m., in the Physics Lecture Theatre of University College. A large number were present, and Professor J. Masson Gulland introduced the lecturer, who spoke on "Bivalent Hydrogen: Some New Aspects of Tautomerism." An admirable historical survey of the problem of bivalent hydrogen and of chelation was given by the lecturer, who proceeded to consider and classify tautomeric changes in the light of this concept. A short discussion followed, and a vote of thanks, proposed by Mr. J. C. Roberts and seconded by Mr. F. R. Bradbury, was carried with acclamation.

LECTURE AT SHEFFIELD, NOVEMBER 8th.

A joint meeting with the Sheffield University Chemical Society was held in the Chemistry Department at the University at 5.30 p.m. on November 8th, 1940, with Professor R. D. Haworth in the Chair.

Professor E. K. Rideal delivered a lecture on "Reactions in Monolayers." The lecturer described how methods originally devised for investigating the properties of monolayers on water surfaces have been adapted to the study of chemical reactions occurring in monolayers. Many interesting examples of such reactions were given, special reference being made to the bearing of this work on biological problems.

A vote of thanks proposed by Dr. J. M. Robertson and seconded by Mr. H. D. Turner was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
John William Blagden	1922.	November 28th, 1940.
Rudolph Demuth	1911.	October 24th, 1940.

ACKNOWLEDGEMENTS.

The Council have expressed their thanks to Miss K. A. Cumming and Mr. G. A. Stokes for presenting volumes of the Society's publications and to Professor D. H. Peacock for a contribution to the Publications Fund.

RESEARCH FUND.

In view of present conditions, the Council have decided to consider applications for grants from the Research Fund of the Society as they are received. Fellows wishing to apply for grants should make application on the form obtainable from the General Secretary.

FELLOWSHIP.

The resignations of 5 Fellows have been accepted, 1 Fellow has been removed for non-payment of annual subscriptions under the action of Bye-Law 15, and the following 16 new Fellows have been elected:

Peter Alexander.
Audrey Ruth Barratt.
Marion Grenfell Brewer.
Albert Frederick Crowther.
Alfred John Mountfort Draper.
Harold Foulds.
Jack Gaunt.
Stanley Wallace Hawkins.
Mollie Eileen Heppenstall.
Nora Herzfeld.
Rina Katherina Elisabeth Mygind.
Stanley Nelson Slater.
Edgar William Richard Steacie.
Charles Ewart Stickings.
James Harold Thorp.
David John Tivey.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than January 13th, 1941. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Baxter, Eric George,** Inter.B.Sc.(Lond.), British. 4, The Approach, Hendon, N.W. 4. Works Chemist and Undergraduate of University of London at Birkbeck College.
Signed by: H. Lambourne, D. J. G. Ives, F. J. Llewellyn.

Capper, Norman Stewart, D.Sc.(Q.U.B.), British. Rutherford Technical College, Newcastle-upon-Tyne, 4. Head of Chemistry Department.
Signed by: Harold A. Scarborough, Pat. D. Ritchie, J. R. Rowlands.

* Reduced Annual Subscription.

***Datta, Satya Prakash,** B.Sc.(Lond.), British Indian. 5, Randolph Crescent, W. 9. Studying Medicine.
Signed by: Henry Terrey, E. D. Hughes, C. K. Ingold.

***Ellis, Bernard,** English. 10, St. Oswald Road, Snapethorpe, Wakefield. Student at Leeds University.
Signed by: J. W. Baker, W. Wild, J. Colvin.

***Farrar, Wilfred Vernon,** B.Sc.(Lond.), British. University College, Nottingham. Research Student.
Signed by: J. Masson Gulland, John C. Roberts, F. R. Mumford.

Ghosh, Ranajit, D.Sc.(Calcutta), Indian. c/o Lloyds Bank, Ltd., 94, Oxford Road, Manchester, 13. Research Worker, Manchester University.
Signed by: G. N. Burkhardt, Alex R. Todd, F. S. Spring.

***Hargreaves, Kenneth,** British. 4, Parkfield Avenue, Bradford Moor, Bradford. Chemistry Student at Leeds University.
Signed by: J. W. Baker, W. A. Wightman, W. Wild.

Heath, Gerald Duncan, B.Sc.(Reading), A.I.C., British. Parsonage Farm, Idmiston, Salisbury.
Signed by: S. R. Finn, R. W. Pittman, G. S. Hartley.

Kerswell, Harold Henry, British. 30, Lowlands Road, Eastcote, Pinner. Manufacturer of Food specialities. 25 years' experience in the Pharmaceutical Trade.
Signed by: J. Wycliffe Peck, Rupert Wollby Brooke, Thos. J. E. Gardner.

Lawson, Gavin, A.I.C., Ph.C., M.P.S., British. 33, Polefield Road, Blackley, Manchester, 9. Chief Chemist to firm of manufacturers.
Signed by: J. Vance Hopper, W. M. Cumming, Alfred R. Cumming.

***Mullins, Brian Percival,** B.Sc.(Lond.), British. 230, Broadwalk, Blackheath, S.E. 3. Civil Servant—fuels and oils research.
Signed by: G. H. Jeffery, Arthur I. Vogel, D. M. Cowan.

Oswin, Charles Robert, B.Sc. and M.A.(Oxon.), A.I.C., British. 120, Wellington Road, Bridgewater. Research Chemist.
Signed by: S. G. P. Plant, D. Ll. Hammick, F. E. King.

Parkinson, Alexander, M.Sc.(Manc.), British. 10, Livingstone Street, Chorlton-on-Medlock, Manchester, 13. Research Student, Manchester University.
Signed by: G. N. Burkhardt, Alex. R. Todd, F. S. Spring.

Stuckey, Robert Edwin, B.Sc.(Lond.), A.I.C., Ph.C., British. 2, Park Avenue, Southport. Staff Chemist, Home Office Forensic Science Laboratory.
Signed by: Wilfred H. Linnell, William Rigby, J. B. Frith.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Schmelkes, Franz Carl, Ph.D.(Prague), American. 83, High Street, Montclair, N.J., U.S.A. Assistant director of research at Wallace & Tierman Co., Inc., Newark, N.J.
Signed by: Kaufman George Falk, Erwin Schwenk.

Sobotka, Harry Hermann, Ph.D.(Munich), American. Mount Sinai Hospital, New York City, U.S.A. Chief Chemist to Mount Sinai Hospital.
Signed by: A. C. Chibnall.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between November 25th and December 19th, 1940:

"The formation of ethyl 2 : 5-diketopiperazine-3 : 6-diacetate from ethyl aspartate." By W. Cocker.

"Chalkones: production of 2-aryltetral-1-ones from chalkone dibromides *via* the related β-aroyl-α-arylpropionitriles." By S. Hidayetulla, R. C. Shah, and T. S. Wheeler.

"The formation of trichloroacetic acid from perchloroethylene by atmospheric oxidation." By K. C. BAILEY and W. S. E. HICKSON.

"Qualitative semimicro-analysis with reference to Noyes and Bray's system: The thallium group." By MISS C. C. MILLER.

"Observations on the chemical constitution of galactogen from *Helix Pomatia*. Part I. Galactose as a component of a polysaccharide of animal origin." By D. J. BELL and E. BALDWIN.

"Aminosulphonic acid analogues of natural aminocarboxylic acids." By H. MCILWAIN.

ADDITIONS TO THE LIBRARY

I. *Donations.*

HARRY, RALPH G. Modern cosmeticology: the principles and practice of modern cosmetics. New York 1940. pp. xiv + 288. ill. $5. (*Recd.* 4/12/40.) From the Author.

IMPERIAL INSTITUTE. *Mineral Resources Department.* Reports on the mineral industry of the British Empire and foreign countries. Chrome ore and chromium. By ROBERT ALLEN and G. E. HOWLING. London 1940. pp. 118. (*Reference.*) 2*s*. 6*d*. net. From the Director.

MEDICAL RESEARCH COUNCIL. *Special Report Series,* No. 235. The chemical composition of foods. By R. A. MCCANCE and E. M. WIDDOWSON. London 1940. pp. 150. (*Reference.*) 4*s*. net. From Dr. C. Ainsworth Mitchell.

II. *By Purchase.*

AMERICAN GAS ASSOCIATION. Fuel flue gases: the application and interpretation of gas analyses and tests. New York 1940. pp. x + 198. ill. $5. (*Recd.* 28/11/40.)

BODANSKY, MEYER, and BODANSKY, OSCAR. Biochemistry of disease. New York 1940. pp. xii + 684. ill. $8. (*Recd.* 28/11/40.)

BRANDT, KARL. Whale oil: an economic analysis. Stanford University 1940. pp. xii + 264. ill. $3. (*Recd.* 28/11/40.)

BURTON, E. F., SMITH, H. GRAYSON, and WILHELM, J. O. Phenomena at the temperature of liquid helium. (American Chemical Society, Monograph Series.) New York 1940. pp. xii + 362. ill. $6. (*Recd.* 28/11/40.)

ELLIS, CARLETON. Printing inks: their chemistry and technology. New York 1940. pp. 560. ill. $7. (*Recd.* 28/11/40.)

HAMMETT, LOUIS P. Physical organic chemistry: reaction rates, equilibria, and mechanisms. New York 1940. pp. x + 404. ill. $4. (*Recd.* 10/12/40.)

JEANS, SIR JAMES. An introduction to the kinetic theory of gases. Cambridge 1940. pp. viii + 311. ill. 15*s*. net. (*Recd.* 28/11/40.)

JENNY, A. The anodic oxidation of aluminium and its alloys. Translated by WINIFRED LEWIS. London 1940. pp. viii + 231. ill. 16*s*. net. (*Recd.* 28/11/40.)

MANTELL, C. L. Industrial electrochemistry. 2nd edition. New York 1940. pp. x + 656. ill. $5.50. (*Recd.* 4/12/40.)

MOELWYN-HUGHES, E. A. Physical chemistry: an introduction. Cambridge 1940. pp. viii + 660. ill. 45*s*. net. (*Recd.* 28/11/40.)

NEWITT, DUDLEY M. The design of high pressure plant and the properties of fluids at high pressures. Oxford 1940. pp. viii + 491. ill. 35*s*. net. (*Recd.* 28/11/40.)

PAULING, LINUS. The nature of the chemical bond and the structure of molecules and crystals. 2nd edition. Ithaca 1940. pp. xvi + 450. ill. $4.50. (*Recd.* 28/11/40.)

RADLEY, J. A. Starch and its derivatives. London 1940. pp. x + 346. ill. 22*s*. net. (*Recd.* 28/11/40.)

SEARLE, ALFRED B. Refractory materials: their manufacture and uses. 3rd edition. London 1940. pp. xvi + 895. ill. 45*s*. net. (*Recd.* 28/11/40.)

SHEPARD, HAROLD H. The chemistry and toxicology of insecticides. Minneapolis 1939. pp. iii + 383. ill. 22*s*. net. (*Recd.* 28/11/40.)

SKINKLE, JOHN H. Textile testing: physical, chemical, and microscopical. [New York] 1940. pp. xii + 272. ill. $3. (*Recd.* 28/11/40.)

STERN, H. J. Practical latex work. Leicester 1940. pp. 103. ill. 5*s*. 6*d*. net. (*Recd.* 3/12/40.)

WALTER, F. G. The manufacture of compressed yeast. London 1940. pp. viii + 254. ill. 15*s*. net. (*Recd.* 28/11/40.)

III. *Pamphlets.*

BRITISH STANDARD INSTITUTION. British Standard Specifications, No. 911—1940. Method for the biological assay of vitamin D_2 by the Chick method. pp. 20.

MA, TSU SHENG. Studies on synthetic drugs. (i) Partial reduction of some alkyl quaternary salts of pyridine and quinoline carbonamides. (ii) Studies toward the synthesis of 4-methyl-5, 5-dialkyluracil. Chicago 1940. pp. 31.

HNOLOGY DEPT

PUBLIC LIBRARY
APR 19 1941

THE CHEMICAL SOCIETY

MEETING IN LONDON.

Chemical Society, Burlington House, Piccadilly, W. 1. Thursday, February 6th, 1941, at 1.45 p.m. **Lecture** on " Plasticisers " by Mr. F. W. Clark, B.Sc., F.I.C. Joint meeting of the Chemical Society and the Plastics Group of the Society of Chemical Industry.

Professor J. C. Philip, O.B.E., D.Sc., F.R.S., will take the Chair.

MEETINGS OUTSIDE LONDON.

EDINBURGH.

February 24th, 1941, at 7.15 p.m. **Tilden Lecture** on " Some Problems in Macromolecular Chemistry " by Professor H. W. Melville, D.Sc., Ph.D. To be held at the North British Station Hotel.

GLASGOW.

February 21st, 1941, at 7 p.m. **Lecture** on " Correlations between Cancer-producing Compounds " by Professor J. W. Cook, D.Sc., F.R.S. To be held in the Societies' Room of the Royal Technical College.

LEEDS.

March 11th, 1941, first session 5.15 to 6.15; interval for refreshments; second session 7 to 8.30 p.m. **Discussion** on " Some Aspects of Adsorption " to be opened by Dr. R. M. Barrer and Mr. R. S. Bradley. Joint meeting with the University of Leeds Chemical Society. To be held in the General Lecture Theatre of the University.

LIVERPOOL.

February 13th, 1941, at 4 p.m. **Lecture** on " Recent Research on the Nutrition of Bacteria " by Professor H. D. Wright, B.A., M.D., D.Sc. Joint meeting with the Liverpool University Chemical Society to be held in the Lecture Theatre of the University.

NORTH WALES.

February 7th, 1941, at 5.30 p.m. **Lecture** on " The Chemistry of Rottlerin and Related Topics " by Professor A. Robertson, M.A., B.Sc., Ph.D. Joint meeting with the University College of N. Wales Chemical Society, to be held in the Chemistry Lecture Theatre of the College, Bangor.

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February 28th, 1941, at 5.30 p.m. **Lecture** on " Diazotisation " by Professor J. Kenner, D.Sc., F.R.S. To be held in the Chemistry Lecture Theatre of the University, Western Bank.

SOUTH WALES.

In Cardiff.

February 15th, 1941, at 3.15 p.m. **Lecture** on " Disinfectants " by Mr. N. Berry, B.Sc., A.I.C.

March 21st, 1941, at 5.45 p.m. **Lecture** on " More Recent Investigations on Organic Compounds of Gold " by Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S.

Joint meetings with the Institute of Chemistry and the Society of Chemical Industry. To be held in the Physics Lecture Theatre, University College of South Wales, Cathays Park.

In Swansea.

March 20th, 1941, at 5.30 p.m. **Lecture** on " The Life and Work of William Jackson Pope " by Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S. Joint meeting with the University College of Swansea Students Chemical Society. To be held in the Chemistry Lecture Theatre, University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETING OUTSIDE LONDON.

LECTURE AT SWANSEA, JANUARY 18th.

A meeting of the Society was held jointly with the Local Section of the Institute of Petroleum and the University College of Swansea Chemical Society at 3 p.m. on Saturday, January 18th, in the Chemistry Lecture Theatre, University College, Swansea, with Professor J. E. Coates, Local Representative, in the Chair. Mr. A. R. Ubbelohde delivered a lecture on " The Combustion of Gaseous Hydrocarbons." Confining himself to the low-temperature oxidation of straight-chain aliphatic hydrocarbons—*e.g.*, *n*-pentane—the lecturer outlined the experimental methods, including the study of reaction products, reaction kinetics, and spectroscopy, of obtaining evidence as to the nature of the intermediate oxidation compounds and of the reaction chain mechanism, which was shown to involve aldehydes and peroxides as important stages. Reference was made to pro- and anti-knock agents, and to experiments with the internal-combustion engine. The lecture was fully illustrated by experiments. A short discussion followed in which Messrs. F. G. Willson, W. S. Nathan, and G. E. Coates took part. A cordial vote of thanks to the lecturer was proposed by Dr. J. W. T. Jones, seconded by Dr. E. Roberts, and carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Alexander Houghton Hay	1913	September 8th, 1940.
Charles Arthur Silberrad	1921	October 31st, 1940.

ACKNOWLEDGEMENTS.

The Council have expressed their thanks to Mr. Percy Appleyard and Dr. T. Ewan for contributions to the Publications Fund.

RESEARCH FUND.

In view of present conditions, the Council have decided to consider applications for grants from the Research Fund of the Society as they are received. Fellows wishing to apply for grants should make application on the form obtainable from the General Secretary.

RESEARCH GRANTS.

The Council have made the following grant from the Research Fund:

		£	s.	d.
Plant products of New Zealand (*contd.*).	L. H. Briggs (Auckland University College)	20	0	0

REPRESENTATION OF THE SOCIETY ON OTHER BODIES.

The following have been appointed by the Council to serve during 1941:

Bristol University Court: Prof. F. G. Donnan.
British National Committee for Chemistry: Dr. C. W. Davies (Senior Secretary), Prof. F. G. Donnan, Mr. F. P. Dunn (Treasurer).

British Standards Institution : Council of Chemical Division : Dr. J. J. Fox. *Technical Committees :* Co-ordinating the work of the Divisional Councils in regard to any British Standard which may be issued in future for units, conversion factors, fundamental formulæ, values for properties of materials, etc. : Dr. H. J. T. Ellingham. Specifications for Materials and Plant used in Electroplating : Dr. U. R. Evans. Standardisation of Scientific Glassware : Mr. F. R. Ennos. Standards for use in Dairying Chemistry : Mr. Eric Voelker. Standardisation of Letter Symbols : Dr. C. F. Goodeve.

Bureau of Chemical and Physiological Abstracts : Dr. H. J. T. Ellingham, Prof. C. R. Harington, Dr. G. A. R. Kon, and one of the Hon. Secretaries, with the Treasurer *ex-officio.*

Chemical Council : Dr. C. W. Davies, Prof. F. G. Donnan, Mr. F. P. Dunn.

City and Guilds of London Institute : The President.

Faraday Society : Colloid Committee : Mr. D. C. Henry.

Joint Library Committee : Prof. A. J. Allmand, Prof. H. Bassett, Dr. O. L. Brady, Prof. C. H. Desch, Mr. M. B. Donald, Dr. H. J. Emeléus, Dr. C. F. Goodeve, Dr. P. Haas, Prof. C. R. Harington, Dr. T. A. Henry, Dr. E. W. McClelland, Dr. E. E. Turner, Prof. W. Wardlaw, Dr. J. C. Withers.

Lawes Agricultural Trust : Committee of Management : Dr. E. F. Armstrong.

Royal Microscopical Society : Standardisation of Biological Stains : Prof. A. G. Green.

Royal Society : Joint Standing Committee for Symbols and Abbreviations : Dr. C. W. Davies, Dr. H. J. T. Ellingham.

VACANCIES ON COUNCIL.

The names of the members of Council who retire at the Annual General Meeting on the 3rd April, 1941, are as follows :

President : Sir ROBERT ROBINSON.

Vice-Presidents who have filled the office of President : Professor P. F. FRANKLAND, Professor G. G. HENDERSON, Professor N. V. SIDGWICK, and Professor W. P. WYNNE.

Elected Ordinary Members of Council :

Constituency I (South-East England).
Dr. A. G. FRANCIS, Dr. R. J. W. LE FÈVRE, and Dr. H. MCCOMBIE.

Constituency IV (North-East England).
Dr. E. B. R. PRIDEAUX and Professor F. M. ROWE.

Constituency V (Scotland).
Professor F. J. WILSON.

The above are ineligible for election to the same office until after the lapse of one year except in so far as special provision is made in Bye-Law 47 for the appointment of Vice-Presidents who have filled the office of President. In accordance with this Bye-Law, Sir Robert Robinson (retiring President) will become a Vice-President who has filled the office of President, and Professor P. F. Frankland, Professor G. G. Henderson, Professor N. V. Sidgwick, and Professor W. P. Wynne will continue in office.

NOTICE is hereby given that in accordance with the Bye-Laws the following vacant places in the Council fall due to be filled at the Annual General Meeting to be held on the 3rd April, 1941 :

President	*One vacancy.*
Elected Ordinary Members of Council :	
Constituency I (South-East England)	*Three vacancies.*
,, **IV** (North-East England)	*Two vacancies.*
,, **V** (Scotland)	*One vacancy.*

In accordance with Bye-Law 23, the Council have nominated Professor J. C. Philip to the office of President.

Nominations by Fellows for the office of President may be made in writing **signed by at least twenty Fellows.**

Fellows resident in a constituency may nominate any Fellow resident in that constituency for election to the Council to fill a vacancy among Elected Ordinary Members of Council allotted to that Constituency. Every such nomination must be in writing **signed by at least fifteen Fellows resident in that constituency.**

Every nomination must relate to one vacant place only, and must be accompanied by a signed declaration by the nominee that he is willing to accept the office, if elected.

All nominations must be received by the Honorary Secretaries at the Society's Rooms **not later than first post on Friday, February 14th, 1941.**

FELLOWSHIP.

The resignations of 18 Fellows have been accepted; 6 Fellows have been reinstated and the following new Fellows have been elected:

Eric George Baxter.
Norman Stewart Capper.
Satya Prakash Datta.
Bernard Ellis.
Wilfred Vernon Farrar.
Ranajit Ghosh.
Kenneth Hargreaves.
Gerald Duncan Heath.
Harold Henry Kerswell.
Gavin Lawson.
Brian Percival Mullins.
Charles Robert Oswin.
Alexander Parkinson.
Franz Carl Schmelkes.
Harry Hermann Sobotka.
Robert Edwin Stuckey.

GENERAL ANNOUNCEMENTS

BOARD OF TRADE.

The Treasury have made an Order under Section 10 (5) of the Finance Act, 1926, renewing until June 30th, 1941, the exemption from Key Industry duty of all articles at present exempt, except dial, chinoline, dinitro-orthocresol, ethyl orthoformate, and metaldehyde.

Copies of the Order, which is entitled the Safeguarding of Industries (Exemption) No. 16 Order, 1940 (S.R. & O. 1940, No. 2182), may be obtained from H.M. Stationery Office.

THE PHYSICAL SOCIETY COLOUR GROUP.

The first meeting of the Colour Group of the Physical Society will be held at the Polytechnic, Regent Street, London, W. 1, at 2 p.m. on February 12th, 1941. The first portion of the meeting will be devoted to a discussion of the draft constitution of the Group. Discussion will be open to all those attending the meeting, but voting will be restricted to those who have completed the form of membership. Copies of the draft constitution of the Group may be seen at the offices of the Physical Society at 1, Lowther Gardens, South Kensington.

During the second portion of the meeting four short papers will be read on the subject of COLOUR TOLERANCE, as follows:

(1) "Introductory" by Dr. Wright of the Imperial College of Science and Technology.
(2) "The Commercial Aspect" by Mr. Wilson of the British Colour Council.
(3) "The Technical Aspect" by Mr. Ellis of the Clayton Aniline Co., Ltd.
(4) "The Physical Aspect" by Mr. Perry of Messrs. Adam Hilger, Ltd.

Tea will be served at 4.30 p.m.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, February 17th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Berg, Isaac, B.Sc. Hons. (Lond.), A.I.C., British. 18, Philson Mansions, Philpot Street, London, E. 1. Analytical Chemist.
Signed by: J. R. Partington, W. H. Patterson, D. C. Jones.

Bilham, Philip, M.Sc. (Lond.), F.I.C., British. Ryecroft, Cross Road, Tadworth, Surrey. Research Chemist.
Signed by : Leslie H. Lampitt, E. B. Hughes, R. L. Collett.

Brown, Harold Bush, F.I.C., British. Burleigh, Knapton Lane, Acomb, York. Research Chemist.
Signed by : W. A. Wightman, H. Burton, J. W. Baker, R. Leslie Collett.

Bull, Frank Henry Charles, B.Sc. (Bristol), A.I.C., British. 6, Wimbledon Road, Kellaway Avenue, Bristol, 6. Works Chemist and Deputy Chief Chemist to a Gas Company.
Signed by : E. B. Maxted, T. Malkin, J. K. N. Jones, H. D. Springall.

***Catch, John Reynolds,** B.Sc. (Lond.), British. 4, Bridges Road, West Ewell. Student.
Signed by : D. H. Hey, E. R. H. Jones, G. A. R. Kon.

***Cockayne, Walter Sydney,** B.Sc. (Edin.), British. 18, George Place, Peebles. Research at Edinburgh University.
Signed by : E. G. V. Percival, H. Gordon Rule, Mowbray Ritchie.

Demuth, Ronald Leopald, B.A. Hons. (Cantab.), British. 68, Salusbury Road, West Kilburn, N.W. 6. Manufacturing Chemist.
Signed by : H. Lambourne, Eric K. Rideal, J. H. Schulman.

Dickinson, Denis, M.Sc. (Dun.), F.I.C., British. 15, Nansen Road, Gatley, Cheadle, Cheshire. Analytical and Research Chemist.
Signed by : Denis E. Wheeler, Alex. R. Todd, F. P. Dunn.

Drane, Charles William, B.Sc. (Wales), A.I.C., British. 51, Chester Road, Streetly, Sutton Coldfield, Birmingham. Assistant Chemist, Birmingham Tame & Rea District Drainage Board.
Signed by : J. L. Simonsen, G. R. Ramage, Walter W. Reed.

***Dukes, Wilfrid Archibald,** B.Sc. Hons. (Lond.), British. 16, Wellesley Road, Croydon. Research Chemist at Ministry of Supply.
Signed by : C. K. Ingold, Henry Terrey, E. D. Hughes.

Gard, John Stanley Fabian, B.Sc. (Dun.), A.I.C., British. 2, Station Road, Washington, Co. Durham. Chief Chemist to a Chemical Co.
Signed by : G. R. Clemo, Eric G. Hancock, H. L. Riley, P. L. Robinson.

Goddard, Eric, Assoc. Manc. Coll. Tech., British. c/o A. E. Bevan, Ltd., 51, South John Street, Liverpool, 1. Works Manager and Chief Chemist to a firm of manufacturing Chemists.
Signed by : Norman Hamer, A. E. Findlay, R. R. Butler.

Greaves, John Harry, B.Sc. (Lond.), A.I.C., British. 32, Lancaster Road, South Norwood, S.E. 25. Works and Research Chemist.
Signed by : J. O. Cutter, D. R. Duncan, S. H. Bell.

Gyles, Thomas Benson, M.Sc. (Melbourne), A.I.C., British. Gifford Cottage, Rangeworthy, Glos. Manager, Technical Department, The National Smelting Co., Ltd.
Signed by : W. E. Garner, E. B. Maxted, T. Malkin, H. D. Springall.

Hadfield, Thomas, City and Guilds full Certificate (Teachers), British. 22, Blackburn Road, Rishton, Blackburn. Pathologist (Clinical).
Signed by : E. H. Holden, T. Haworth, H. Ainsworth Harrison.

Hancock, Douglas Charles, B.Sc. Hons. (Lond.), A.I.C., British. 27, Woodlawn Crescent, Twickenham, Middlesex. Research Chemist.
Signed by : S. H. Bell, D. R. Duncan, J. O. Cutter.

Hartz, Lionel Samuel, B.Sc. (Lond.), A.I.C., British. 42, Cambridge Heath Road, London, E. 1. Analytical Chemist.
Signed by : E. B. Hughes, A. E. Bradfield, Leslie H. Lampitt.

Haslam, John, M.Sc. (Vict.), F.I.C., British. Raynham, Middlewich Road, Northwich, Cheshire. Deputy Chief Analyst.
Signed by : L. M. Clark, H. C. Raine, H. H. Whitelegg.

Hayworth, William Prince, F.I.C., British. Port Sunlight, Cheshire. Analytical Chemist.
Signed by : R. F. Hunter, W. J. G. Jones, A. D. Scott, R. Leslie Collett.

*** Reduced Annual Subscription.**

Hepworth, Harry, D.Sc. (Lond.), F.I.C., British. Ridgeway, Hill Top, Wilmslow, Cheshire. Chemist with I.C.I. (Dyestuffs) Ltd.
Signed by : E. H. Rodd, M. Barrowcliff, P. Chorley.

Hunwicke, Roderick Francis, B.Sc. (Lond.), F.I.C., British. Greenford, Middlesex. Senior Bacteriologist.
Signed by : F. A. Robinson, B. Arthur Hems, H. Jephcott.

Irving, Francis, B.Sc. and Ph.D. (Liverpool), British. c/o I.C.I. (Dyestuffs) Ltd., Research Department, Manchester. Research Chemist.
Signed by : E. H. Rodd, J. W. Batty, H. A. Piggott.

James, Walter Eric, M.P.S., British. 48, Sudbury Croft, Harrow Road, Wembley. Pharmacist at Glaxo Laboratories.
Signed by : A. L. Bacharach, F. W. Robinson, B. Arthur Hems.

Jones, Ernest Gabriel, M.Sc. (Vict. & Liverpool), F.I.C., British. 16, Sefton Drive, Liverpool, 8. Deputy City Analyst, Liverpool. Lecturer in Public Health Chemistry at the University of Liverpool.
Signed by : A. Robertson, A. McGookin, T. P. Hilditch.

Jones, Thomas Gilbert Henry, D.Sc. (Sydney), British. Department of Queensland, University of Queensland, Brisbane, Australia. Professor of Chemistry.
Signed by : J. C. Earl, Thomas Iredale, Adrien Albert.

Kennett, Stanley John, B.Sc. and Ph.D. (Lond.), A.R.S.M., D.I.C., British. 96, Crawford Avenue, Liverpool, 15. Lecturer in Metallurgy, Liverpool University.
Signed by : T. P. Hilditch, R. A. Morton, A. Robertson.

Kerr, John William, B.Sc. Hons. (Glas.), F.I.C., British. I.C.I. Ltd., 4, Blythswood Square, Glasgow, C. 2. Chemical Sales Manager.
Signed by : F. J. Wilson, I. V. Hopper, A. B. Crawford.

Lee, William Victor, British. c/o Union Oil & Cake Mills, Union Mills, Silvertown, E. 16. Chemist, Oil Mills & Refineries.
Signed by : A. B. Shepherd, H. L. Howard, Eric Pickering.

Leicester, Daere Cheales, British. 19, Nightingale Road, Bushey, Herts. Works Manager and Chemist.
Signed by : F. Thomas, Henry H. Butterfield, William A. Whiting.

Lerrigs, Arthur Frank, B.Sc. (Birm.), F.I.C., British. 61, The Chase, Eastcote, Middlesex. Analytical Chemist, Glaxo Laboratories.
Signed by : F. A. Robinson, B. Arthur Hems, H. Jephcott.

McCartney, William, Ph.D. (Edin.), F.I.C., Associate of Heriot-Watt College, British. 89, Arundel Road, Kingston-on-Thames. Research Chemist and Scientific Assistant to the Director, Iodine Educational Bureau.
Signed by : Francis C. Kelly, Edgar Stedman, W. Godden.

McDowell, Richard Henry, M.A. and B.Sc. (Oxon.), A.M.I.Chem.E., British. 120, Three Elms Road, Hereford. Works Chemist and Chemical Engineer.
Signed by : D. L. Chapman, R. Robinson, D. Ll. Hammick.

McLellan, Basil Gordon, F.I.C., M.I.Chem.E., A.R.T.C., British. Beverley House, Clifton, York. Chief Chemist, Rowntree & Co., Ltd.
Signed by : W. A. Wightman, J. W. Baker, H. Burton, R. Leslie Collett.

Maltby, John Gwilliam, B.Sc. (Lond.), A.I.C., British. Aubigny, Reigate Road, Epsom. Analytical Chemist.
Signed by : E. Horton, H. B. Hutchinson, J. Vargas Eyre.

Myerscough, Leslie Charles, B.Sc. Hons. (Lond.), A.I.C. English. 87, Lindsay Drive, Kenton, Harrow. Research Chemist, Johnson, Matthey & Co., Ltd.
Signed by : W. P. Grove, A. R. Powell, J. Kenyon.

Orr, William James Coltart, B.Sc. (Edin.), Ph.D. (Edin. & Cantab.), British. 55, Roseford Road, Cambridge. Research Worker.
Signed by : Eric K. Rideal, J. K. Roberts, A. E. Alexander.

***Pearcy, Ralph,** B.Sc. (Lond.), British. 63, Gilpin Avenue, East Sheen, S.W. 14. Research Student.
Signed by : C. K. Ingold, E. D. Hughes, J. N. E. Day.

*** Reduced Annual Subscription.**

Peter, Reginald Charles, B.Sc. Hons. (Lond.), British. 338, Field End Road, Ruislip. Chief Chemist, International Estate Co., Ltd.
Signed by : W. H. Banks, W. Lawson, G. D. Greville.

Potter, Peter Bridgman, B.A. (Cantab.), British. Dobbins, Brackley, Northants. On Service.
Signed by : P. V. Potter, F. P. Dunn, C. W. Davies.

***Preston, Robert William Gunn,** B.Sc., Hons. (Glasgow), British. Strathyre, Mill Road, Clydebank, Glasgow. Research Chemist.
Signed by : J. W. Cook, F. R. Storrie, T. S. Patterson.

Purdie, Robert Hume, M.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C., British. 114, Haverstock Hill, N.W. 3. Analytical and Works Chemist.
Signed by : L. S. Theobald, A. A. Eldridge, James C. Philip.

Riddell, George Low, Ph.D. (Lond.), F.I.C., British. Patra House, 10, Robin Hood Court, Shoe Lane, E.C. 4. Director of Research of the Printing and Allied Trades Research Association.
Signed by : C. W. Davies, J. Kenyon, J. W. Smith.

***Russell, Peter Byrom,** B.Sc. Hons. (Manchester), British. Brookside, Crofts Bank Road, Urmston. Research Student at Manchester University.
Signed by : G. N. Burkhardt, F. S. Spring, Alex. R. Todd.

***Sagar, Robert,** B.Sc. (Manc.), British. 9, Buxton Street, Accrington. University Research Worker.
Signed by : G. N. Burkhardt, F. S. Spring, Alex R. Todd.

Smith, Colin Alderson, M.A. (Cantab.), British. Eastfield House, Braunston, Nr. Rugby. Managing Director, H. A. Smith, Ltd.
Signed by : R. G. W. Norrish, Fredk. S. Dainton, Donald Faulkner, R. Roy Smith.

Smith, Ernest Lester, D.Sc. (Lond.), F.I.C., British. Greenford. Head of a Technical Research Department.
Signed by : F. A. Robinson, B. Arthur Hems, H. Jephcott.

Surfleet, Harold, M.P.S., British. 111, Eastcote Road, Ruislip. Chemist and Director, Kaylene Ltd.
Signed by : William N. Bacon, T. E. Wallis, Wilfred H. Linnell.

***Waley, Stephen Gerald,** British. Balliol College, Oxford. Student.
Signed by : Ronald P. Bell, F. E. King, M. J. S. Dewar.

Whiston, John Reginald Harvey, M.A. and B.Sc. (Oxon.), British. Blurton, Stoke-on-Trent. Assistant Professor of Chemistry.
Signed by : Robert Robinson, E. Hope, D. Ll. Hammick.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between December 19th, 1940, and January 23rd, 1941 :

" Absorption spectra in relation to quinones. 1 : 4-Naphthaquinone, anthraquinone and their derivatives." By R. A. Morton and W. S. Earlam.

" *cis*-Azo-compounds. Part IV. Some reactions with diphenylketen." By A. H. Cook and D. G. Jones.

" The interaction of chloramine-T and hydrogen sulphide, phosphine, and arsine." By J. R. Bendall, F. G. Mann, and D. Purdie.

" Reaction velocities at low temperatures. Part III. The synthesis of diethylacetal at temperatures between $-44°$ and $+25°$." By R. P. Bell and A. D. Norris.

" The preparation of some condensation products of *m*-dialkylaminobenzaldehydes with compounds containing reactive methylene groups, and investigation of their suitability as photographic sensitisers." By W. Cocker and D. G. Turner.

" Modified cinchona alkaloids. Part VIII. Niquine." By W. Solomon.

" *p*-Aminodimethylaniline. Part I. The properties of its diazonium compound." By E. E. Ayling, J. G. Gorvin, and L. E. Hinkel.

CHNOLOGY DEPT.

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DETROIT

THE CHEMICAL SOCIETY

MEETINGS OUTSIDE LONDON.

LEEDS.

March 11th, 1941, first session 5.15 to 6.15; interval for refreshments; second session 7 to 8.30 p.m. **Discussion** on "Some Aspects of Adsorption" to be opened by Dr. R. M. Barrer and Mr. R. S. Bradley. Joint meeting with the University of Leeds Chemical Society. To be held in the General Lecture Theatre of the University.

SOUTH WALES.

In Swansea.

March 20th, 1941, at 5.30 p.m. **Lecture** on "The Life and Work of William Jackson Pope" by Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S. Joint meeting with the University College of Swansea Students Chemical Society. To be held in the Chemistry Lecture Theatre, University College.

In Cardiff.

March 21st, 1941, at 5.45 p.m. **Lecture** on "More Recent Investigations on Organic Compounds of Gold" by Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S.

Joint meeting with the Institute of Chemistry and the Society of Chemical Industry. To be held in the Physics Lecture Theatre, University College of South Wales, Cathays Park.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT DUNDEE, JANUARY 24th.

A meeting of the Society was held in University College, Dundee, at 4.30 p.m. on Friday, January 24th, with Professor W. F. K. Wynne-Jones in the Chair. Principal Sir James C. Irvine, C.B.E., F.R.S., gave a lecture, illustrated by lantern slides, on "The Teaching of Chemistry in the University of St. Andrews." The lecturer gave a historical description of the development of Chemistry in the University, and an account of the various occupants of the chairs of Chemistry in St. Andrews, and in University College, Dundee. This was much enjoyed by a large audience, and a cordial vote of thanks to the lecturer was proposed by Professor Alex. McKenzie, F.R.S., and carried with acclamation.

LECTURE AT EDINBURGH, JANUARY 27th.

A joint meeting of the Society with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry was held in the North British Station Hotel on Monday, January 27th, at 7.15 p.m., with Professor James Kendall, F.R.S., in the Chair.

Professor J. Masson Gulland delivered a lecture on "Nucleic Acids."

The lecturer began by mentioning briefly the recent developments which have demonstrated the rôle of nucleic acids in the structures of various biologically important substances. The salient features of the organic chemistry of the nucleosides and nucleotides were then outlined, and an account was given of some of the methods by which these substances have been synthesised. Then, having explained the conception of the tetranucleotide unit, the lecturer discussed in some detail the evidence—organic, physico-, and bio-chemical—on which the polytetranucleotide structures of ribonucleic and deoxyribonucleic acids are based, and by which light is thrown on the nature of the linkages between the constituent nucleotides of a tetranucleotide unit. He concluded by referring to the importance of nucleic acids, as they play a fundamental part in the structures of the most elementary reproductive bodies known, the chromosomes and viruses.

An interesting discussion followed, in which Dr. J. Hewart, Dr. Ludlam, Dr. Wightman, and Dr. Percival took part, and the meeting carried with acclamation a hearty vote of thanks proposed by Dr. Neil Campbell.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Robert Cecil Turle Evans	1892	February 2nd, 1941.
George William Hargraves Stokes	1926	January 2nd, 1941.
Frank Watson Young	1877	January 10th, 1941.

CONGRATULATIONS.

The congratulations of the Society have been conveyed to the following Fellows who completed 50 years of Fellowship on February 19th, 1941:

Charles Henry Corbett.
Edgar James Millard.
Sir Thomas K. Rose.

NOMINATIONS FOR VACANT PLACES ON THE COUNCIL.

As the number of nominations received for Elected Members of Council does not exceed the number of vacancies, the need for a ballot does not arise this year.

The following is a complete list of the nominations for the new Council, and, in accordance with Bye-Law 35, the Fellows thus nominated will be declared duly elected at the Annual General Meeting to be held in the Society's Rooms at Burlington House, Piccadilly, on Thursday, April 3rd, 1941 :

President (*One vacancy*) PROFESSOR J. C. PHILIP.

Vice-Presidents who have filled the office of President.

SIR ROBERT ROBINSON, as retiring President, becomes a Vice-President who has filled the office of President, and, in accordance with Bye-Law 47, the following continue to hold office :

PROFESSOR PERCY F. FRANKLAND.
PROFESSOR G. G. HENDERSON.
PROFESSOR N. V. SIDGWICK.
PROFESSOR W. P. WYNNE.

Elected Members of Council.

Constituency I (South-East England). (*Three vacancies.*)

DR. HARRY JULIUS EMELÉUS.
DR. JOHN JACOB FOX.
DR. BERNARD CHARLES SAUNDERS.

Constituency IV (North-East England). (*Two vacancies.*)

PROFESSOR JOHN MASSON GULLAND.
PROFESSOR ROBERT DOWNS HAWORTH.

Constituency V (Scotland). (*One vacancy.*)

DR. GUY FREDERICK MARRIAN.

ACKNOWLEDGMENTS.

The Council have expressed their thanks to Messrs. P. K. Dutt, J. E. B. Price, and G. Watson Young for contributions to the Publications Fund, and to Major E. R. Marle for a set of the *Annual Reports*.

LOCAL REPRESENTATIVE FOR CAMBRIDGE.

Dr. F. S. Dainton (Sidney Sussex College, Cambridge) has agreed to act temporarily as Local Representative for Cambridge.

ADVISORY RESEARCH COUNCIL OF THE CHEMICAL SOCIETY.

Preparation of Fine Chemicals.

The Advisory Research Council of the Chemical Society in collaboration with the Association of British Chemical Manufacturers is putting into operation a scheme for organising the preparation of Fine Chemicals by part-time volunteer workers in the laboratories of Universities, Technical Colleges, and other Institutions. It is essential to the scheme that compounds so prepared must be required for work of national importance and be not available commercially, and that the Manufacturers of Fine Chemicals are themselves unable, or do not find it convenient, to meet the demands. It is intended that preparations should be carried out on a cost-price basis which would include charges for materials, gas, electricity, etc., but not for the workers' services. No profits of any kind will be permitted.

The General Secretary will be glad to hear from those who have not already volunteered and who would be willing to allow their names to be added to the list of volunteer helpers in connection with this scheme. Enquiries for Fine Chemicals which fall within the scope of the scheme as set out above may also be made to the General Secretary, from whom further information can be obtained.

FELLOWSHIP.

The resignation of 1 Fellow has been accepted, 7 Fellows have been reinstated and the following 49 new Fellows were elected on February 20th :

Isaac Berg.
Philip Bilham.
Harold Bush Brown.
Frank Henry Charles Bull.
John Reynolds Catch.
Walter Sidney Cockayne.
Ronald Leopold Demuth.
Denis Dickinson.
Charles William Drane.
Wilfrid Archibald Dukes.
John Stanley Fabian Gard.
Eric Goddard.
John Harry Greaves.
Thomas Benson Gyles.
Thomas Hadfield.
Douglas Charles Hancock.
Lionel Samuel Hartz.
John Haslam.
William Prince Hayworth.
Harry Hepworth.
Roderick Francis Hunwicke.
Francis Irving.
Walter Eric James.
Ernest Gabriel Jones.
Thomas Gilbert Henry Jones.
Stanley John Kennett.
John William Kerr.
William Victor Lee.
Dacre Cheales Leicester .
Arthur Frank Lerrigs.
William McCartney.
Richard Henry McDowell.
Basil Gordon McLellan.
John Gwilliam Maltby.
Leslie Charles Myerscough.
William James Coltart Orr.
Ralph Pearcy.
Reginald Charles Peter.
Peter Bridgman Potter.
Robert William Gunn Preston.
Robert Hume Purdie.
George Low Riddell.
Peter Byron Russell.
Robert Sagar.
Colin Alderson Smith.
Ernest Lester Smith.
Harold Surfleet.
Stephen Gerald Waley.
John Reginald Harvey Whiston.

BRITISH STANDARDS INSTITUTION.

Copies of revised draft British Standard Specification No. CF (C) 7507 have been received for the British Institution for technical comment. These have been placed in the Library, and Fellows are invited to send comments to the Director of the Investigation at 28, Victoria Street, S.W.1.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, 24th March. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Aleong, Ronald Winston, M.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C., British. 7, Glazbury Road, W.14. Post graduate student.
Signed by : D. H. Hey, A. G. Pollard, R. Leslie Collett.

Allister, Charles Fulton, B.Sc. (Lond.), A.I.C., British. 37, Lynwood Road, Ealing, W.5. Chemist (Food and Industry).
Signed by : James Sandilands, R. Leslie Collett, Robert G. M. Dakers, Hugh B. Nisbet.

Amos, Arthur James, B.Sc. and Ph.D. (Lond.), F.I.C., British. The Dover Laboratories, Cambridge Works, Hanwell, W.7. Analytical and consulting Chemist.
Signed by : Ernest M. Hawkins, K. A. Williams, R. Leslie Collett.

Anderson, Leonard, M.Sc. (Leeds), British. 23, Arlington Drive, Mapperley Park, Nottingham. Director of Drug Co.
Signed by : Joseph Marshall, Frank Lee Pyman, R. Leslie Collett.

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Signed by : W. J. Hickinbottom, R. H. Hopkins, F. W. Pinkard, F. Smith, E. G. Cox.

Balmforth, Leonard, B.Sc. (Lond.), F.I.C., British. Clifton Villa, South Street, Cottingham. Head of Chemistry Department, Hull Technical College.
Signed by : Harry Thompson, E. Chapman, R. Butler.

Barrs, Charles Edward, F.I.C., British. 58, South Hill Park, Hampstead, N.W.3. Analytical and Metallurgical Chemist.
Signed by : A. L. Bacharach, J. R. Nicholls, Thomas McLachlan.

Bashford, Thomas Edwin, A.R.San.I., British. 7, Albert Road, Worcester. Senior Bacteriologist, The Metal Box Co., Ltd.
Signed by : A. J. Howard, Cecil C. Duncan, G. A. Turner.

Bellenson, Bernard, B.Sc. and Ph.D. (L'pool.), F.I.C., British. Wealdstone, Harrow. Research Chemist.
Signed by : F. M. Hamer, S. C. Goddard, R. Leslie Collett.

Bell, Alan Brewis, B.Sc. Hons. (Manc.), A.I.C., British. Elstree Way, Boreham Wood. Works Manager and Director.
Signed by : F. Fairbrother, J. B. M. Herbert, Colin Campbell, R. Leslie Collett.

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Signed by : W. E. Garner, E. B. Maxted, R. Leslie Collett.

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Signed by : Francis H. Carr, A. L. Bacharach, H. W. Harman.

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Signed by : E. H. Farmer, F. Hilton, D. A. Sutton.

Boundy, Clifford Kenneth, A.I.C., British. Benns Garden, Liverpool, 1. Chief Chemist.
Signed by : T. P. Hilditch, G. P. Gibson, A. E. Findley.

Bowes, Joane Hilton, B.Sc. and Ph.D. (Lond.), A.I.C., British. Harpenden, Herts. Research Chemist, British Leather Manufacturers Research Association.
Signed by : M. P. Balfe, Mollie E. Heppenstall, Conmar Robinson.

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Signed by : D. Foggan, I. L. Robson, G. H. Christie.

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Burns, James Alexander, A.I.C., British. c/o Charrington & Co., Ltd., E.1.
Signed by : Julian L. Baker, R. H. Hopkins, R. Leslie Collett.

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Signed by : Fredk. O. Howitt, Arthur Geake, F. S. H. Head.

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Signed by : R. Pendrill Charles, R. G. W. Norrish, H. McCombie.

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Signed by : W. B. Brown, R. Leslie Collett, P. S. Gordon.

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Signed by : H. W. L. Phillips, T. G. Pearson, Freeman Horn.

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Signed by : C. J. Virden, J. Todd, C. Dorée.

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Signed by : W. B. Adam, Thos. Macara, Eileen M. Chatt.

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Signed by : Wm. Wardlaw, M. Le Pla, R. Leslie Collett.

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Signed by : R. A. E. Galley, N. F. Goodway, J. E. L. Swallow.

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Signed by : T. W. Howard, R. Leslie Collett, H. F. V. Little.

Humphreys, Frank Edmund, B.Sc. and Ph.D. (Lond.), A.R.C.S., F.I.C., British. 536, Caledonian Road, N.7. Experimental Officer.
Signed by : Conmar Robinson, M. P. Balfe, R. Leslie Collett.

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***Johnson, Elizabeth Dent,** B.Sc. Hons. (Lond.), British. 70, Cavrel Road South, Darlington. Research Chemist with I.C.I., Ltd.
Signed by : T. S. Moore, M. M. T. Plant, A. Eric J. Vickers.

Jones, Richard Leslie, Assoc.M.Inst.Gas Eng., 1, Sovrel Bank, Pendleton, Salford. Works Superintendent, Gas Works.
Signed by : Thos. E. Hubbard, Thos. Haworth, R. Tomlinson Jones.

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Signed by : J. Newton Friend, J. Cooper Duff, R. H. Vallance.

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Signed by : Thomas McLachlan, William H. Ballantyne, Thos. B. Clerk.

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Miller, Mary Eynon, B.Sc. (Manc.), British. I.C.I. (General Chemicals, Ltd.) Librarian, Runcorn.
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Signed by : Freeman Horn, Richard Seligman, W. H. J. Vernon.

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Signed by : Alex. Findlay, E. H. Farmer, R. L. Collett.

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Signed by : J. Davidson Pratt, L. J. Barley, I. M. Heilbron.

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Signed by : Ivan Harris, R. Leslie Collett, C. J. Bushrod.

Woodhouse, William, F.I.C., British. 215, Derby Road, Beeston, Notts. Chief Chemist to Iron Works.
Signed by : J. Masson Gulland, E. B. R. Prideaux, R. Leslie Collett.

Woodmansey, Arnold, M.Sc. (Leeds), F.I.C., British. 31, St. Hilda's Road, Harrogate. Borough Analyst.
Signed by : H. Burton, Frederick Challenger, R. Leslie Collett.

Wright, Frank Major, B.Sc. (Lond.), British. The Research Library, 89, Buckingham Avenue, Slough, Bucks. Abstractor and Translator.
Signed by : W. S. Patterson, R. J. Winterton, J. H. Wilkinson.

UNDER SPECIAL PROVISIONS APPERTAINING TO APPLICANTS RESIDENT ABROAD:

Goldrei, Izaak, Ingenieur Chimiste de l'Université de Strasbourg. Polish. 4, Howitt Close, Howitt Road, London, N.W.3. Research Chemist.
Signed by : Thos. Macara.

Schaul, M. C., G.Phil. Nat. (Frankfurt), Stateless, German origin, Refugee. 16, Mortimer Court, Abbey Road, N.W.8. Research Work in Food Chemistry.
Signed by : Leslie H. Lampitt.

PAPERS RECEIVED

List of papers received between January 23rd and February 20th, 1941:

"Solanum alkaloids. Part I. The alkaloid from the fruit of *Solanum aviculare.*" By R. C. Bell and L. H. Briggs.

"Solanum alkaloids. Part II. Solasonine." By L. H. BRIGGS, R. P. NEWBOLD, and N. E. STACE.

"*Cannabis indica*. Part VI. The condensation of pulegone with alkyl resorcinols. A new synthesis of cannabinol and of a product with hashish activity." By R. GHOSH, A. R. TODD, and D. C. WRIGHT.

"The preparation of 4-acetamido-2-hydroxyphenylarsenoxide." By M. A. PHILLIPS.

"The halogenation of phenolic ethers and anilides. Part X. Substituted tolyl ethers." By B. JONES.

"The dissociation constants and stereochemistry of some stereoisomeric dibasic acids." By J. C. SPEAKMAN.

"Application of the diene synthesis to terpenoid compounds. Part II. Observations on the esters derived from some maleic anhydride adducts." By T. F. WEST.

"Tetrachloronaphthalenes derived from dichloronaphthalene tetrachlorides and from trichloronaphthalenesulphonic acids." By (MISS) E. G. TURNER and W. P. WYNNE.

March 1941.

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DETROIT

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING MEETINGS

IN LONDON.

The Hundredth Annual General Meeting will take place at Burlington House on Thursday, April 3rd, 1941. At 12 noon, the business portion will be held (*a*) To receive the Report of Council, together with Statements of Accounts and Balance Sheets for the year ended 31st December, 1940; (*b*) To declare the election of the President and of Fellows nominated to fill vacancies among elected Ordinary members of Council; (*c*) To appoint Auditors for 1941.

At 12.45 for 1 p.m., Luncheon will be held at Kempinski's Restaurant (Swallow Street, Piccadilly), and the price of the luncheon will be 5*s*. 6*d*. (not including gratuities).

At 2.45 p.m. the retiring President, Sir Robert Robinson, F.R.S., will give his Presidential Address, entitled, "The Mechanism of the Benzidine Rearrangement and some Related Topics."

Thursday, April 24th, at 4.15 p.m. **The Tilden Lecture**, entitled "Some Problems in Macromolecular Chemistry," to be given by Professor H. W. Melville, D.Sc., Ph.D., at Burlington House.

Thursday, May 15th, at 4.15 p.m. **The Eighth Liversidge Lecture,** entitled "Complex Formation," to be given by Professor N. V. Sidgwick, C.B.E., M.A., Sc.D., F.R.S., at Burlington House.

OUTSIDE LONDON.

LEEDS.

May 13th, 1941, at 7.30 p.m. **The Eighth Liversidge Lecture,** entitled "Complex Formation," to be given by Professor N. V. Sidgwick, C.B.E., M.A., Sc.D., F.R.S. To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

May 1st, 1941, at 5 p.m. Lecture on "Chemical Research in Electrical Industry," by Dr. J. Brisler, F.I.C. Joint meeting with the Liverpool University Chemical Society. To be held in the Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

SOUTH WALES.

In Cardiff.

A meeting of the Society was held jointly with the local sections of the Institute of Chemistry and the Society of Chemical Industry at 3.15 p.m. on Saturday, February 15th, at the University College of South Wales and Monmouthshire, Cathays Park, Cardiff. Mr. N. Berry, B.Sc., A.I.C., Dean of the College of the Pharmaceutical Society, delivered a lecture entitled " Disinfectants." In the course of an interesting survey of this wide field attention was directed both to the direct coal-tar products and to the numerous substances of synthetic origin. The lecturer dealt further with the possibilities of detergent antiseptics and stressed the need for studies directed towards aerosols. A lively discussion followed, in which Dr. Cullinane (the Chairman), Mr. Crofts, and Dr. D. P. Evans took part. A hearty vote of thanks to the lecturer was proposed by Dr. H. B. Watson, seconded by Mr. S. Dixon, and carried with acclamation. There were 66 members and visitors present.

EDINBURGH.

The Tilden Lecture, on " Some Problems in Macromolecular Chemistry," was delivered in the North British Station Hotel at 7.15 p.m. on Monday, February 24th, by Professor H. W. Melville, with Dr. E. G. V. Percival in the Chair. After a brief summary of the achievements of Sir William Tilden by the Chairman, the lecturer gave a masterly account of the present state of our knowledge of polymerisation reactions, in which he dealt with polymers of the " nylon " type, polymerised methyl methacrylate, chloroprene, vinyl esters and related substances, and the formation of three-dimensional polymers. Particular attention was paid to the mechanism of polymerisation and the structure and molecular weight of the products. Mr. A. M. Cameron and Drs. Beevers, Ludlam, Kermack, Mowbray Ritchie, Bolam, Nisbet, and others participated in the interesting discussion which followed, and the meeting concluded with the enthusiastic adoption of a vote of thanks to Professor Melville, on the motion of Professor James Kendall, F.R.S.

GLASGOW.

A meeting of the Society, in co-operation with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, was held at 7 p.m. on Friday, February 21st, in the Royal Technical College, with Professor F. J. Wilson in the Chair.

Professor J. W. Cook, F.R.S., delivered a lecture on " Correlations among Cancer-producing Compounds." The Lecturer outlined the rather well-defined relationships between constitution and carcinogenic properties in substitution products of 1 : 2-benzanthracene and in some related polynuclear substances, and suggested that the general shape and dimensions of the molecules influenced their biological activity. Physical properties—solubility, fluorescence, ultra-violet absorption—are not easily correlated with carcinogenic potency; and the same applies to the susceptibility to oxidation or diazo-coupling which is exhibited by many cancer-producing hydrocarbons. Finally reference was made to the histological changes observed after application of a carcinogenic agent,

and to the observation that such compounds actually inhibit the growth of existing tumours.

A discussion followed, and a vote of thanks, proposed by Professor T. S. Patterson, was carried with acclamation.

LEEDS.

A joint meeting of the Leeds Area Section of the Chemical Society and the Leeds University Chemical Society was held in the University of Leeds on Monday, March 11th, 1941. Professor R. Whytlaw Gray, F.R.S., occupied the Chair. The first session of a discussion on "Some Aspects of Adsorption," was opened by R. S. Bradley, Esq., M.A. (University of Leeds), who discussed "Adsorption on Simple Ionic Crystals."

After an interval for light refreshments, Dr. R. M. Barrer (Bradford Technical College) opened the second session with an account of "Sorption on Zeolites." Both contributions evoked interesting and valuable discussions a short account of which is being published.*

SHEFFIELD.

A joint meeting with the University Chemical Society was held at 5.30 p.m. on Friday, February 28th, in the University, with Professor R. D. Haworth in the Chair.

Professor J. Kenner, F.R.S., gave a lecture on "Diazotisation." After a historical and general survey of the reaction, the properties of the diazo-compounds were considered from the electronic point of view. Various implications were discussed, including some interesting suggestions regarding the reactivity of diazo-ketones, nitrosyl chloride, and acyl diazo-compounds.

Many of Professor Kenner's former students and colleagues were able to be present, and a vote of thanks, proposed by Emeritus Professor W. P. Wynne and seconded by Dr. T. B. Smith, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Andrew Campbell	1892	February 16th.
George Ward Hedley	1899	March 13th.
John William Towers	1893	February 23rd.

CONGRATULATIONS.

The congratulations of the Society have been conveyed to Mr. Archibald Walker, who completed 60 years of Fellowship on March 17th.

ACKNOWLEDGMENTS.

The Council are glad to record that the further sum of £101 11*s.* 5*d.* has been received from the Gilles Bequest. The thanks of the Council have been conveyed to Messrs. N. Campbell and Ernest E. Tallis for contributions to the Publications Fund and to Mr. J. E. B. Price for a contribution to the Library Fund.

* Chemistry and Industry.

FELLOWSHIP.

The following 111 candidates were elected Fellows of the Chemical Society on March 27th :—

Ronald Winston Aleong.
Charles Fulton Allister.
Arthur James Amos.
Leonard Anderson.
Stanley Angell.
Leonard Balmforth.
Charles Edward Barrs.
Thomas Edwin Bashford.
Bernard Beilenson.
Alan Brewis Bell.
Sidney Billbrough.
James Blair.
George Frederick Bloomfield.
Clifford Kenneth Boundy.
Joane Hilton Bowes.
Reginald Frederick Bowles.
John Braddock.
George Brearley.
John Joseph Ablett Brooks.
Henry Burman.
James Alexander Burns.
Charles John Cadwallader.
Hubert Harold Chambers.
Gilbert Pendrill Charles.
Arthur Cheshire.
William Cullen.
Henry John Davis.
Tom Dewing.
James Herbert Dickin.
Lois Dickinson.
William Dickson.
Henry Dreyfus.
George Dring.
Ronald Leslie Edwards.
Geoffrey Herbert Emmott.
Herbert Firth.
David Michael Freeland.
Harry Reginald Galleymore.
Nathan Goldenburg.
Izaak Goldrei.
Harold Hopwood Goldthorpe.
Sydney James Green.
Alec Walter Greenhill.
Melville Gregory.
Herbert Clewin Griffith.
John Davies Hamer.
Frederick Wardle Haywood.
James Wallace Hewitt.
Ernest Henry Hopkins.
Melvyn Hopley.
Frederick Percival Hornby.
Stanley Hornsby.
Walter Edward Huggett.
Frank Edmund Humphreys.
George Vaughton James.
Elizabeth Dent Johnson.
Richard Leslie Jones.
Charles Edwin Kendall.
Douglas William Kent-Jones.
James Grieve King.
Cyril Augustus Kloss.
George Alfred Knight.
Walter George Leach.
Thomas Leigh.
Alfred George James Lipscomb.
Ernest Basil Lisle.
Austin Lowe.
Alan Thomas Mabbitt.
Donald McDonald.
Edmonds Frank MacTaggart.
Harry Malkin Mason.
Norman Joseph Lane Megson.
Herbert Meyer.
Mary Eynon Miller.
Allan Cuthbertson Monkhouse.
Albert Edward Moors.
Richard Harold Morgan.
Alfred Theophilus de Mouilpied.
Geoffrey Dale Muir.
Frank Donald Neech.
William Gammie Ogg.
Albert Ormrod.
Ridland Owens.
Frank Herbert Peakin.
Frederick William Pritchard.
William Edward Raybould.
M. C. Schaul.
Donald Edwin Seymour.
Henry Geoffrey Smith.
James Fergus Smith.
Thomas Sidney Smith.
Harold Stanier.
Stanley Stevens.
John Charles Stimson.
George Herbert Stott.
Richard William Sutton.
Frederick Tattersfield.
Robert Alfred Victor Tayar.
Basil Duperier Thornley.
Roy Warren Watridge.
James Bertram Ward.
Yvonne Mary Way.
George White.
John Chirstison White.
Leslie Thomas Douglas Williams.
Robert David Williams.
Robert Ballantyne Wilson.
Claude Helm Wood.
William Woodhouse.
Arnold Woodmansey.
Frank Major Wright.

GENERAL ANNOUNCEMENTS

BOARD OF TRADE.

The Treasury have made an Order under Section 10 (5) of the Finance Act, 1926, as amended by Section 2 (1) of the Import Duties (Emergency Provisions) Act, 1939, exempting Benzoyl Chloride from Key Industry duty from February 26th, 1941, until June 30th, 1914.

Copies of the Treasury Order, which is entitled "The Safeguarding of Industries (Exemption) No. 1 Order, 1941," may be obtained from H.M. Stationery Office.

THE PHYSICAL SOCIETY.

The next meeting of the Colour Group will be held at 2.30 p.m. on Wednesday, April 30th, 1941, at the Royal Photographic Society, 16, Princes Gate, London, S.W. 7.

Demonstration. Mr. H. W. Ellis, B.Sc., F.I.C., will demonstrate the samples illustrating his paper on "Colour Tolerance," which he was unable to demonstrate at the last meeting on February 12th.

Paper and Discussion. A paper on "Colour Terminology" will be read by Mr. H. D. Murray, M.A., F.I.C., and will be followed by a discussion to which representatives of various trades have been invited to contribute.

Tea will be served at 4.30 p.m.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday 14th April. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Archer, Frederick Stanley, A.I.C., British. Tirionva, Gwalshmai, Holyhead. Research Chemist, D.S.I.R.
Signed by : A. E. Findley, T. P. Hilditch, R. R. Butler.

Armour, John, B.Sc. Hons. (Lond.), A.I.C., A.M.I.Chem.E., Assoc.M.Inst. Gas E., British. 150, Berwick Drive, Cardonald, Glasgow, S.W. 2. Works Chemist.
Signed by : Percy C. Austin, F. R. Storrie, W. M. Cumming.

***Barker, Reuben Lloyd,** B.Sc. Hons. (Dun.), 2½ years Post Graduate Research (Organic) at King's College. British. 11, Marina Avenue, Sutton, St. Helens. Research Chemist.
Signed by : George A. Swan, R. Raper, G. R. Clemo.

Bassett, Cecil Abell, B.Sc. (Birm.), F.I.C., British. 14, Colebrook Avenue, Ealing, W. 13. Research Chemist.
Signed by : L. H. Lampitt, E. B. Hughes, R. L. Collett.

Broughall, Frederick George, B.Sc. Hons. (Birm.), A.I.C., British. 33, Bernard Road, Edgbaston, Birmingham, 17. Chief Chemist to the Midland Tar Distillers, Ltd.
Signed by : Geo. King, R. H. Hopkins, Garfield Thomas.

Brown, Clifford, B.Sc. Hons. and M.Ed. (Leeds), A.I.C., British. Presteigne, 260, Higham Lane, Nuneaton. Senior Science Master at King Edward VI School.
Signed by : J. W. Baker, H. Burton, E. Rothstein.

***Brown, Richard,** B.Sc. (Dun.), British. 273, Marshall's Cross Road, St. Helens. Research Chemist.
Signed by : G. R. Clemo, Richard Raper, George A. Swann.

Bryant, Charles Sidney, M.A. (Oxon.), B.Sc. (Lond.), F.I.C., British. Shrewsbury, Salop. Research Chemist.
Signed by : R. C. Farmer, A. Marshall, R. L. Collett.

Burton, Donald, M.B.E., D.Sc. (Leeds), F.I.C., British. About 50 papers alone and in collaboration in the J.C.S., J. Int. Soc. Leather Trades' Chemist, J. Soc. Chem. Ind., etc. Rose Hill Tannery, Bolton. Chief Chemist.
Signed by : F. S. Spring, H. T. Openshaw, J. Madinaveitia.

* Reduced Annual Subscription.

Calver, Marjorie, B.Sc. Hons. (Glas.), A.I.C., A.R.T.C., British. 43, Dunglass Avenue, Scotstoun, Glasgow, W. 4. Assistant Chemist to W. Beattie, Ltd.
Signed by : M. M. J. Sutherland, John A. Cranston, Nora I. Good.

Cameron, Hugh Keith, B.Sc., Ph.D. (Lond.), A.I.C., British. 14, Lawns Court, The Avenue, Wembley Park. Research Chemist to the General Electric Co., Ltd.
Signed by : F. S. Hawkins, R. Le Rossignol, R. L. Collett.

Carter, John Stanley, Ph.D., M.Sc. (Leeds), F.I.C., British. 26, St. John's Road, Golders Green, N.W. 11. Inspector of Alkali, etc. Works.
Signed by : R. Lessing, R. Taylor, L. R. B. Pearce, Thomas McLachlan.

Chater, Charles William, B.Sc. Hons. (Lond.), A.I.C., British. 79, Jeymer Drive, Greenford. Senior Analytical and Research Chemist to Messrs. J. Lyons and Co., Ltd.
Signed by : E. B. Barnes, Philip Bilham, L. H. Lampitt.

Coates, Alan Harry, B.Sc. (Lond.), A.I.C., British. 50, Long Lane, Dalton, Huddersfield. Analytical Chemist.
Signed by : J. Masson Gulland, R. L. Collett, E. B. R. Prideaux.

Coates, Harold, B.Sc. (Lond.), A.R.C.S., British. 103, Hurlingham Road, Fulham, S.W. 6. Research Student at Imperial College.
Signed by : D. H. Hey, G. A. R. Kon, E. R. H. Jones.

Coats, Robert Reid, B.Sc. Hons. (Glas.), A.I.C., British. 18, Douglas Street, Motherwell. Industrial Chemist.
Signed by : James D. Loudon, James Bell, David T. Gibson.

Dargie, Andrew, B.Sc. (St. Andrews), A.I.C., Scottish. 140, Perth Road, Dundee. City Analyst for Dundee, County Analyst for Perthshire, Kinross-shire, Angus, and Fifeshire.
Signed by : J. F. Tocher, Alex. Findlay, W. Godden.

Dewhurst, John Reginald, B.Sc. Hons. (Lond.), A.I.C., A.K.C., British. Walton's Hall, Stanford-le-Hope, Essex. Research Chemist to a Gas Company.
Signed by : E. V. Evans, E. A. Bucknell, A. J. Allmand.

Dunning, Eric William Bee, B.Sc. (Lond.), A.I.C., M.Inst. Gas E., British. 51, Castle Road, Salisbury. Chemist.
Signed by : A. B. Densham, A. G. Lidstone, R. L. Collett.

Edwards, Harold, F.I.C., British. Glenmoor, Queensway, Shotton, Chester. Manager of a Steelworks.
Signed by : A. E. Findley, R. R. Butler, R. L. Collett.

Fairlie, Andrew Miller, B.Sc. Hons. Tech. Chem. (Glas.), A.I.C., British. 18, Mount Stuart Street, Shawlands, Glasgow. Analytical and Research Chemist to Messrs. Shanks and Co., Ltd.
Signed by : F. R. Storrie, W. M. Cumming, S. Horwood Tucker.

Firth, Fred, A.I.C., British. 17, Thorn Lane, Leeds, 8. Chief Chemist to Leeds Corporation Gas Department.
Signed by : H. J. Hodsman, G. Hagues, J. W. Baker.

Fisher, Ernest Sidney, B.Sc. (Lond.), A.I.C., British. 70, Stanmore Road, Edgbaston, Birmingham. Research Chemist to Bakelite, Ltd.
Signed by : J. Masson Gulland, John C. Roberts, F. R. Bradbury.

Forstner, George Eric, M.Sc. (Birm.), A.I.C., British. Bracadale, Temple Close, Watford. Chemist.
Signed by : L. H. Lampitt, E. B. Hughes, P. Bilham.

Gillham, Eric William Frederick, B.Sc. (Lond.), A.I.C., British. 4, The Byeways, Surbiton. Junior Chemist to the Fulham Borough Council Electricity Department.
Signed by : H. Lambourne, M. Taylor, R. L. Collett.

Haddon, Cuthbert Leslie, M.Sc. (Dun.), A.Inst.P., F.I.C., British. Birnam, The Park, Newark-on-Trent. Chief Chemist to British Plaster Board, Ltd.
Signed by : C. H. Desch, P. Philips Bedson, W. F. Short.

Hamence, Jack Hubert, M.Sc., Ph.D. (Lond.), F.I.C., British. Hillview, 43, Westland Drive, Hayes, Kent. Public Analyst and Consulting Chemist.
Signed by : Bernard Dyer, George Taylor, H. E. Cox.

Hammond, George Lewis, B.Sc. (Lond.), A.I.C., British. Chemical Inspection Department, Royal Ordnance Factory.
Signed by : Robert H. Pickard, Cecil H. Wilson, R. L. Collett.

Hampton, Wilfred Marsh, Ph.D., B.Sc. (Lond.), F.Inst.P., Fellow Illum. Eng. Soc., A.I.C., British. c/o Messrs. Chance Bros. and Co., Ltd. Director of Research.
Signed by : W. E. S. Turner, C. J. Peddle, R. L. Collett.

Hanson, Norman William, B.Sc. and Ph.D. (Wales), A.I.C., British. "Portencross," 276, Langley Road, Slough. Research Chemist.
Signed by : Henry Brunner, A. G. Pollard, E. G. Noble.

Holmes, Frederick, B.Sc. (Lond.), A.I.C., British. Cambrian Street, Aberystwyth. Temporary Assistant in Government Chemists Department.
Signed by : Charles A. Adams, J. F. Hirst, A. T. Horton.

Honeyman, John, M.A. and B.Sc. Hons. (St. Andrews), British. 16, Cornton Road, Bridge of Allan. Industrial Chemist.
Signed by : J. C. Irvine, John Read, John Dewar.

Jackman, Frank Arthur, B.Sc. (Lond.), A.I.C., British. 105, Ellesmere Road, Dollis Hill, N.W. 10. Technical Chemist.
Signed by : Julian M. Leonard, H. W. Cremer, F. A. Greene.

Kendrick, Stanley Gordon, B.Sc. (Lond.), F.I.C., British. "Hawthorndene," The Dell, Bexley, Kent. Manager, Messrs. Barnett and Foster, Ltd.
Signed by : A. P. L. Blaxter, R. W. Stevenson, R. L. Collett.

***Kohnstam, George,** B.Sc. (Lond.), British. Bailsend, Kingsway, Gerrard's Cross. Research Chemist in Industry.
Signed by : C. K. Ingold, E. B. Hughes, H. G. Poole.

Levvy, Guildford Albert, B.Sc., Ph.D. (Edin.), British. The University, Edinburgh. Assistant in Pharmacology Department of the University.
Signed by : E. G. V. Percival, H. G. Rule, Neil Campbell.

Long, Sidney Howard, B.Sc. (Lond.), British. 16, Fairfield Lane, Farnham Royal, Slough. Works Chemist.
Signed by : W. Rogie Angus, H. J. Evans, L. F. Gilbert.

Lowe, Leonard Thornton, B.Sc. Hons. (Manc.), F.I.C. National Diploma in Agriculture. British. Institute of Agriculture, Usk. Lecturer in Agricultural Chemistry.
Signed by : G. H. Purvis, F. S. Kernick, R. L. Collett.

Lunge, George Henry, M.A. (Cantab.), D.Sc. (Geneva), F.I.C., British. Packington House, Ashby-de-la-Zouch. Managing Director of British Ecla Co., Ltd., and Works Manager to Messrs. Clutson and Kemp, Ltd.
Signed by : James G. Fife, Robert H. Pickard, R. L. Collett.

Lythgoe, Norman Frank, A.I.C., British. 595, Woodchurch Road, Prenton, Birkenhead. Analytical and Research Chemist.
Signed by : Harold Jasperson, A. McGookin, R. R. Butler.

Machin, Eric James, M.A. (Cantab.), 1st Class Nat. Sci. Tripos, Part 1. British. 25, Mead Road, Cheltenham. Chief Biology Master at Cheltenham Grammar School since May, 1940.
Signed by : A. J. Berry, B. C. Saunders, F. W. Rixon.

MacMahon, Leonard Cecil, B.Sc. (Lond.), A.I.C., British. Linden, Springfield Avenue, Knottingley. Research Chemist.
Signed by : E. B. Maxted, W. B. Brown, P. S. Gordon.

McQuillen, Thomas, B.Sc. (St. Andrews), British. Brownrigg, Holton, Lancaster. Chief Chemist to Messrs. James Williamson and Son, Ltd.
Signed by : John Read, Rowland Williams, John Dewar.

Maillard, Edmund Frederick, B.Sc. (Lond.), A.I.C., British. 6, York Square, E. 14. Chemist.
Signed by : Wm. H. Woodcock, R. H. Harry Stanger, Henry J. S. Sand.

Mason, Arthur Forrester, British. 38, Belgrave Road, Higher Crumpsall, Manchester, 8. Works Manager of Manufacturing Chemists.
Signed by : G. Lawson, W. M. Cumming, Alfred R. Cumming.

* Reduced Annual Subscription.

Mather, Robert, B.Sc. Tech. Hons. (Manc.), A.I.C., Assoc.M.C.T., British. Pleasant View, Holcombe, near Bury. Research Chemist to a Colour Company.
Signed by : J. Kenner, W. Bradley, H. Stromberg.

Moir, Hugh Clouston, B.Sc. (Glas.), A.I.C., Scottish. 18, Clevedon Drive, Burnside, Rutherglen. Chief Chemist to Beattie's Bakeries, Ltd.
Signed by : M. M. J. Sutherland, Henry G. A. Anderson, John A. Cranston, R. L. Collett.

Mundy, Lilian Marjorie, Ph.C., A.I.C., British. Cornerway, Redlane, Claygate, Surrey.
Signed by : T. E. Wallis, Wilfrid H. Linnell, R. L. Collett.

Murray, Robert Hugh, B.Sc. Hons. (Birm.), British. 104, Richmond Hill, Langley, Birmingham. Chemist (Research and Analytical).
Signed by : L. H. Lampitt, A. E. Bradfield, E. B. Hughes.

Palmer, Neil, A.I.C. Associate City and Guilds Finsbury College. British. Kenwood, Buckham Thorns Road, Westerham. Chief Chemist to Messrs. Hovis, Ltd.
Signed by : Horatio Ballantyne, R. L. Collett, K. A. Williams.

Prince, Alfred John, M.Sc. (Lond.), F.I.C., M.I.Chem.E., British. Imperial Chemical Industries, Ltd. Chemist.
Signed by : A. Eric J. Vickers, M. P. Applebey, J. G. M. Bremer, Peter W. Reynolds.

Sanders, Alexander, F.I.C., M.I.Chem.E., British. Avonmouth, Bristol. Assistant Works Director.
Signed by : R. L. Collett, Morris W. Travers, E. L. Hirst, E. B. Maxted.

Simmons, William Hall, F.I.C., British. Chemist to the Royal Gunpowder Factory. Civil Servant.
Signed by : Denis I. Duveen, T. W. Jones, R. L. Collett.

Spriggs, Herbert John, B.Sc. (Lond.), A.I.C., Ph.C., British. 6, Stone Hall Road, Winchmore Hill, N. 21. Chief Chemist to the International Chemical Co., Ltd.
Signed by : Katharine H. Coward, L. A. Warren, R. L. Collett.

Squance, Norman William, B.Sc. (Lond.), A.I.C., British. 98, Kenwyn Drive, N.W. 2. Assistant in Government Laboratory.
Signed by : E. H. Nurse, A. T. Parsons, R. L. Collett.

Strouts, Charles Richard Noel, B.A., B.Sc. (Oxon.), A.I.C., British. Chemist i/c Laboratory at the Royal Ordnance Factory.
Signed by : J. P. T. Pearman, F. Douglas Miles, R. L. Collett.

Thomas, Henry Augustus, B.Sc. Hons. and Ph.D. (Birm.), A.I.C., British. Cartref, 21, Avondale Avenue, Hazel Grove, Cheshire. Chemist and Technical Manager to Messrs. Courtaulds, Ltd.
Signed by : W. N. Haworth, E. L. Hirst, J. Kenyon N. Jones.

Walker, George Henry, received analytical and metallurgical training under the supervision of a well-known Public Analyst, gaining considerable experience in all types of chemical analyses and research work; attended up to the outbreak of war a series of lectures on Chemistry, etc., well beyond Inter. B.Sc. Is an approved Air Ministry Chemist. British. The White House, Little Aston Park, Streetly. Engaged by Mr. Joseph Lones.
Signed by : Joseph Lones, V. S. George, Percy A. Tucker.

***Watkins, Thomas Iswel,** B.Sc. 1st Class Hons. and M.Sc. (Wales), A.I.C., British. Duffryn, Glanezrafon Road, Sketty. Research Chemist.
Signed by : J. E. Coates, L. E. Hinkel, E. Roberts.

Whiting, Gilbert Harry, B.A. Hons. (Oxon.), Ph.D. (Sheffield), English. "Upton," Moss Bank Road, St. Helens. Scientific Officer to a factory.
Signed by : W. E. Jones, F. N. Woodward, G. N. Burkhardt.

Wild, John Leslie, B.Sc. Hons. (Lond.), A.I.C., British. Alkmaar, 50, Kewstoke Road, Stoke Bishop, Bristol, 9. Works Manager and Chemist to a firm of Brewing Sugar Refiners and Manufacturers.
Signed by : E. L. Hirst, W. E. Garner, E. B. Maxted.

* Reduced Annual Subscription.

Wilson, Herbert Newton, F.I.C., English. Rookwood, Rookwood Road, Nunthorpe, near Middlesbrough. Analyst to a firm of Chemical Manufacturers.
Signed by : A. Eric J. Vickers, M. P. Applebey, R. L. Collett.

Wood, Eric Charles, B.Sc. (Lond.), A.R.C.S., F.I.C., British. 31, Chantry Close, Kenton, Middlesex. Chief Chemist to Virol, Ltd.
Signed by : R. H. Purcell, G. H. Cheesman, R. L. Collett.

Wylie, Andrew Robertson, A.H.W.C. (Edin.), A.I.C., British. Scotswood, Penn Road, Beaconsfield. Vice-Chairman and Joint Managing Director, Messrs. Winsor and Newton, Ltd.
Signed by : Robert G. M. Dakers, James Sandilands, R. L. Collett.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD :

Austin, Frederick James, Pharmaceutical Chemist (Univ. of Michigan). Author of scientific articles. American. 126, Greene Avenue, Brooklyn, New York, U.S.A. Chief Chemist of Analytical and Research Laboratory, Richard Hudnut and William R. Warner and Co., Inc.
Signed by : Foster Dee Snell.

PAPERS RECEIVED

List of papers received between February 20th and March 24th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" Nitrous acid as a nitrating and oxidising agent. Part IV. Some *N*-dialkylanilines." By H. H. Hodgson and D. E. Nicholson.

" Experiments in the triazine and imidazole series." By A. H. Cook and D. G. Jones.

" Syntheses of (1) glycerol and propylene glycol from propylene and (2) ethylene glycol from ethylene." By D. M. Newitt and P. S. Mene.

" The triterpene group. Part VIII. The minor triterpenoid constituents of manila elemi resin (*cont.*)." By (Miss) I. M. Morice and J. C. E. Simpson.

" The magnitude of the solvent effect in dipole-moment measurements. Part IV. The additive character of the atom polarisation." By A. Audsley and F. R. Goss.

" The distribution of nicotine between trichloroethylene and water." By J. Reilly, D. F. Kelly, and (Miss) M. O'Connor.

" The dismutation of some disulphides. Part IV." By F. S. Fowkes and E. W. McClelland.

" Molecular volume and structure. Parts I and II." By T. W. Gibling.

" *Cannabis Indica*. Part VII. The relation between chemical constitution and hashish activity. I." By P. B. Russell, A. R. Todd, S. Wilkinson, A. D. McDonald, and G. Woolfe.

" The salts of diphenic acid with optically active bases." By (Miss) M. S. Lesslie, E. E. Turner, and E. R. Winton.

" The synthesis of *N*-trimethylglycylcholine." By T. S. Work.

" Some further reactions of diphenic anhydride." By F. Bell and F. Briggs.

" 5-Amino-1-aryl-3-methylpyrazoles." By F. Bell.

" The mutarotation of ethyl alcoholic solutions of 1-menthyl benzoylformate." By M. M. Jamison and E. E. Turner.

" Reactions of hydrazoic acid. Part I." By L. H. Briggs, G. C. De Ath, and S. R. Ellis.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

BALY, E. C. C. Photosynthesis. London 1940. pp. viii + 248. ill. 15*s*. net. (*Recd.* 24/2/41.) From the Author.

BAYER PRODUCTS, LTD. Clinical Excerpts: a monthly journal devoted to therapeutics. Vol. XI, etc. London 1936+. (*Reference.*) From Dr. K. Wallersteiner.

CLARE, MARTIN. The motion of fluids, natural and artificial, in particular that of the air and water. London 1735. pp. xvi + 323 + xxiii. ill. (*Reference.*) From Mr. R. Murdin Drake, O.B.E.

JACKSON, [JOHN]. The substance of twelve lectures on select subjects in natural philosophy, intended to illustrate the present state of science. Delivered in . . . 1824, and taken in short hand by JOSEPH BROADER. London 1825. pp. xviii + 444. ill. From Mr. R. Murdin Drake, O.B.E.

JORDAN, OTTO. The technology of solvents. Translated by ALAN D. WHITEHEAD. 2nd edition. London 1940. pp. xxx + 357. ill. 25*s*. net. (*Recd.* 6/3/41.) From the Publishers: Messrs. Leonard Hill.

PARKES, SAMUEL. The chemical catechism. 13th edition, by E. W. BRAYLEY. London 1834. pp. xl + 681. ill. From Mr. R. Murdin Drake, O.B.E.

VOGEL, ARTHUR I. A text-book of qualitative chemical analysis. 2nd edition. London 1941. pp. xii + 486. ill. 10*s*. 6*d*. (*Recd.* 4/3/41.) From the Publishers: Messrs. Longmans, Green & Co.

II. *By purchase.*

ADDICKS, LAWRENCE. [Editor.] Silver in industry. New York 1940. pp. viii + 636. ill. $10. (*Recd.* 20/2/41.)

BURDON, R. S. Surface tension and the spreading of liquids. Cambridge 1940. pp. xii + 85. ill. 7*s*. 6*d*. net. (*Recd.* 20/2/41.)

CASIMIR, H. B. G. Magnetism and very low temperatures. Cambridge 1940. pp. x + 95. ill. 6*s*. net. (*Recd.* 20/2/41.)

CLARK, GEORGE L. Applied X-rays. 3rd edition. New York 1940. pp. xviii + 674. ill. $6. (*Recd.* 20/2/41.)

CRUMPLER, THOMAS B., and YOE, JOHN H. Chemical computations and errors. New York 1940. pp. xiv + 247. ill. $3. (*Recd.* 20/2/41.)

FICKLEN, JOSEPH B. Manual of industrial health hazards; comprising the occurrence and uses, the properties, clinical symptomatology, permissible standards, physiological responses, and methods for the evaluation of over ninety noxious vapors, gases and dusts. West Hartford 1940. pp. 176. ill. (*Reference.*) $4.

GADDUM, J. H. Pharmacology. London 1940. pp. xvi + 407. ill. 17*s*. 6*d*. net. (*Recd.* 20/2/41.)

GETMAN, FREDERICK H. The life of Ira Remsen. Easton, Pa. 1940. pp. viii + 172. ill. $2.50. (*Recd.* 20/2/41.)

GLASSTONE, SAMUEL. Text-book of physical chemistry. New York 1940. pp. xiv + 1289. ill. $10. (*Recd.* 24/2/41.)

GREEN, DAVID E. Mechanisms of biological oxidations. Cambridge 1940. pp. viii + 181. ill. 12*s*. 6*d*. net. (*Recd.* 20/2/41.)

HARVEY, E. NEWTON. Living light. Princeton 1940. pp. xvi + 328. ill. $4. (*Recd.* 12/2/41.)

HAYHURST, H. Insect pests in stored products. London 1940. pp. xii + 83. ill. 15*s*. net. (*Recd.* 20/2/40.)

HOPKINS, B. SMITH. Chapters in the chemistry of the less familiar elements. Champaign 1938–40. pp. [494]. $5. (*Recd.* 20/2/41.)

LAWRIE, J. P. Methane, its production and utilization. London 1940. pp. 66. ill. 6*s*. net. (*Recd.* 20/2/41.)

MCCORMACK, HARRY. [Editor.] The applications of chemical engineering. New York 1940. pp. x + 431. ill. $3.75. (*Recd.* 20/2/41.)

MOORE, ELWOOD S. Coal; its properties, analysis, classification, geology, extraction, uses and distribution. 2nd edition. New York 1940. pp. x + 473. ill. $6. (*Recd.* 20/2/41.)

PARTINGTON, J. R. Chemical thermodynamics. 3rd edition. London 1940. pp. x + 230. ill. 14*s*. net. (*Recd.* 20/2/41.)

PRESCOTT, SAMUEL CATE, and DUNN, CECIL GORDON. Industrial microbiology. New York 1940. pp. x + 541. ill. $5. (*Recd.* 20/2/41.)

RHEOLOGICAL MEMOIRS. Edited by EUGENE C. BINGHAM. Vol. I, No. 1. Experimental investigations upon the flow of liquids in tubes of very small diameter [1846]. By JEAN LEONARD MARIE POISEUILLE. Translated by WINSLOW H. HERSCHEL. Easton, Pa. 1940. pp. x + 101. (*Reference.*) $2.50.

RUHEMANN, M. The separation of gases. Oxford 1940. pp. xiv + 283. ill. 21*s*. net. (*Recd.* 20/2/41.)

SCHOELLER, W. R., and POWELL, A. R. The analysis of minerals and ores of the rarer elements. 2nd edition. London 1940. pp. xvi + 308. 18*s*. net. (*Recd.* 20/2/41.)

WILSON, PERRY W. The biochemistry of symbiotic nitrogen fixation. Madison 1940. pp. xiv + 302. ill. $3.50. (*Recd.* 11/3/41.)

III. *Pamphlets.*

BAYER PRODUCTS, LTD. "Cantan" therapy. ("*Bayer*" Vitamin C.) London [n.d.]. pp. 60.

—— The circulatory hormone "Padutin." London [n.d.]. pp. 67.

—— "Lacarnol" and its therapeutic application. London [n.d.]. pp. 46. ill.

—— "Prontosil": a survey of the new chemotherapy. London 1938. pp. 71.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND. Empire mineral resources and their relation to the war effort. 23rd Streatfeild Memorial Lecture. By SYDNEY J. JOHNSTONE. London 1941. pp. 85. ill.

MOHAMED, A. F. The distribution of hydrogen-ion concentration in the North-Western Indian Ocean and adjacent waters, with an appendix on the determination of hydrogen sulphide in sea-water withdrawn from certain samples of mud collected from the North-Western Indian Ocean. (From the *Sci. Reports John Murray Expedition, 1933–34*, 1940, 2.) ill.

NICOLLE, JACQUES. Étude quantitive de l'absorption du protoxyde d'azote dans l'ultra-violet. Paris 1940. pp. 34. ill.

RESEARCH ASSOCIATION OF BRITISH RUBBER MANUFACTURERS. [Organisation and description of laboratories.] Croydon [1940]. pp. 16. ill.

CHNOLOGY DEPT.

April 1941

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DETROIT

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING MEETINGS.

IN LONDON.

Thursday, May 15th, at 4.15 p.m. The **Eighth Liversidge Lecture,** entitled " Complex Formation," to be given by Professor N. V. Sidgwick, C.B.E., M.A., Sc.D., F.R.S., at Burlington House.

Thursday, June 19th, at 4.15 p.m. **Tilden Lecture,** entitled " Vitamins of the B Group," to be given by Professor A. R. Todd, D.Sc., D.Phil., at Burlington House.

OUTSIDE LONDON.

LEEDS.

Tuesday, May 13th, at 7.30 p.m. The **Eighth Liversidge Lecture,** entitled " Complex Formation," to be given by Professor N. V. Sidgwick, C.B.E., M.A., Sc.D., F.R.S. To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, May 1st, at 5 p.m. **Lecture** on " Chemical Research in Electrical Industry," by Dr. J. Brisler, F.I.C. Joint meeting with the Liverpool University Chemical Society. To be held in the Lecture Theatre of the University.

OXFORD.

Friday, May 30th, at 2.30 p.m. **Seventh Pedler Lecture,** entitled " Recent Developments in the Chemistry of the Carbohydrates," by Professor W. N. Haworth, D.Sc., F.R.S. To be held in the Biochemistry Department, University Museum.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT LIVERPOOL, FEBRUARY 13th.

A meeting of the Society was held jointly with the Liverpool University Chemical Society in the Lecture Theatre of the University, at 4 p.m., when Professor H. D. Wright delivered a lecture on "Recent Research on the Nutrition of Bacteria."

The lecturer began by stating that owing to their minuteness, bacteria cannot be identified by appearance alone, but also by their chemical and physiological activities.

Pasteur, although able to grow non-pathogenic bacteria easily in solutions of known chemical composition, was unable to cultivate pathogenic bacteria except in extracts of the organs of animals which the disease could attack. Later it was found that similar extracts from any animals would suffice, sometimes accompanied by blood, yeast, etc. A few bacilli, notably those causing leprosy and syphilis, have not been cultivated.

Light only began to be shed on the problem of bacterial nutrition when skilled chemists and skilled bacteriologists began to collaborate. Gradually the various essential factors required to grow different bacilli emerged. Professor Wright conceived the idea that bacteria might fail to grow because of an inhibitory factor in the medium, and not because it was inadequate. A substance could induce growth either as a nutrient or by neutralising something which prevented growth: thus peptone failed because it contained copper, but succeeded in the presence of blood. p_H and oxidation-reduction potential were found to be important. Many bacteria would only thrive in an atmosphere containing CO_2.

Fildes stressed the necessity of employing very pure reagents, since 0·1—1 per cent. of amino-acids is sufficient to lead to erroneous conclusions. He showed that some bacteria have remarkable synthetic power, whilst the parasitic bacilli must be supplied with enzymes and other complex substances essential to their life. The parasitic bacteria may gradually be caused to acquire greater synthetical ability, and their nutritive needs resemble those of animals, thus affording a glimpse of evolutionary processes.

Since the discovery of the therapeutic action of the sulphanilamides it has been found that chemotherapeutic compounds may act either by removing some essential nutrient or by competing successfully with such a nutrient for an essential enzyme. Fildes accordingly suggested the use of substituted essential factors in chemotherapy. In this way a directive influence has been given to the study of this problem.

SOUTH WALES.

LECTURE AT SWANSEA, MARCH 20th.

A meeting of the Society was held jointly with the University College of Swansea Chemical Society at 5.30 p.m. in the Chemistry Lecture Theatre, University College, Swansea, with Professor J. E. Coates, Local Representative, in the Chair.

Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S., delivered a lecture on "The Life and Work of Sir William Jackson Pope," in the course of which he stressed mainly the development of Pope's great researches in stereochemistry, including his classical discovery that optical activity could be produced by asymmetric atoms other than carbon, and the outstanding advance which he made in this field when he prepared compounds of which the optical activity could not be ascribed to the asymmetric configuration of any one atom, but only to the asymmetry or dissymmetry of the molecule as a whole. The way

in which Pope's life-long interest in crystallography influenced his researches was also clearly brought out. Speaking of him as teacher, colleague, and friend, Professor Gibson showed his audience a man of strong character and withal of deep human sympathy and understanding, who lived a full life, by no means narrowly academic.

After the lecture Mrs. W. G. Palmer spoke in personal appreciation and reminiscence of Pope at Cambridge. A vote of thanks to Professor Gibson for a notable memorial lecture which will be remembered by his hearers was proposed by Mr. B. Walters, seconded by Dr. L. E. Hinkel, and cordially carried.

LECTURE AT CARDIFF, MARCH 21st.

A joint meeting of the Society with the local sections of the Institute of Chemistry and the Society of Chemical Industry was held at 5.45 p.m. in the Physics Lecture Theatre, University College, Cardiff, with Dr. N. M. Cullinane in the Chair.

Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S., delivered a most interesting lecture on "More Recent Investigations on the Organic Chemistry of Gold," in which he dealt with the structures of the dialkyl gold derivatives of amines and of aliphatic and aromatic dibasic acids, and also discussed the most probable constitution of tetraethylsulphato-digold. In the discussion which followed Dr. N. M. Cullinane, Dr. D. P. Evans, and Dr. J. F. J. Dippy took part. A cordial vote of thanks to the lecturer was proposed by Mr. H. Ll. Bassett, seconded by Mr. S. B. Watkins, and enthusiastically received.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, April 24th, 1941, at 4.15 p.m.

The President, Professor J. C. PHILLIP, O.B.E., D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting on April 4th and 18th, 1940, were taken as read, and were confirmed and signed.

The PRESIDENT referred to the loss sustained by the Society, through death, of the following Fellows:

Honorary Fellow.	Elected.	Died.
Herbert F. Freundlich	1938	March 29th, 1941.
Fellows.		
Antony N. Fitzgerald	1906	March 15th, 1941.
Francis E. Francis	1902	April 14th, 1941.
Arthur Lapworth	1894	April 5th, 1941.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: Herbert C. Griffith, Charles E. Barrs, Isaac Berg, Frank M. Wright, George Dring, and Douglas C. Hancock.

TILDEN LECTURE.

After a brief introduction, the President called on Professor H. W. Melville to deliver his Tilden Lecture, entitled "Some Themes in the Chemistry of Macromolecules."

A vote of thanks to the Lecturer was then moved from the Chair and carried with acclamation.

OFFICIAL ANNOUNCEMENTS

CONGRATULATIONS.

The PRESIDENT stated that messages of congratulation had been received from the Royal Society and Mr. J. D. Johnson regarding the Centenary of the Society.

CONTRIBUTIONS.

The thanks of the Council had been conveyed to Mr. J. C. Jennings for a contribution to the Publications Fund, and to I.C.I., Ltd., and Dr. A. F. Campbell for presenting publications of the Society.

FELLOWSHIP.

14 Fellows had been reinstated, and the following 65 candidates had been elected Fellows on April 24th.

Frederick Stanley Archer.
John Armour.
Frederick James Austin.
Reuben Lloyd Barker.
Cecil Abell Bassett.
Frederick George Broughall.
Clifford Brown.
Richard Brown.
Charles Sidney Bryant.
Donald Burton.
Marjorie Calver.
Hugh Keith Cameron.
John Stanley Carter.
Charles William Chater.
Alan Harry Coates.
Harold Coates.
Robert Reid Coats.
Andrew Dargie.
John Reginald Dewhurst.
Eric William Bee Dunning.
Harold Edwards.
Andrew Miller Fairlie.
Fred Firth.
Ernest Sidney Fisher.
George Eric Forstner.
Eric William Frederick Gillham.
Cuthbert Leslie Haddon.
Jack Hubert Hamence.
George Lewis Hammond.
Wilfred Marsh Hampton.
Norman William Hanson.
Frederick Holmes.
John Honneyman.
Frank Arthur Jackman.
Stanley Gordon Kendrick.
George Kohnstam.
Guildford Albert Levvy.
Sidney Howard Long.
Leonard Thornton Lowe.
George Henry Lunge.
Norman Frank Lythgoe.
Eric James Machin.
Leonard Cecil MacMahon.
Thomas McQuillen.
Edmund Frederick Maillard.
Arthur Forrester Mason.
Robert Mather.
Hugh Clouston Moir.
Lilian Marjorie Mundy.
Robert Hugh Murray.
Neil Palmer.
Alfred John Prince.
Alexander Sanders.
William Hall Simmons.
Herbert John Spriggs.
Norman William Squance.
Charles Richard Noel Strouts.
Henry Augustus Thomas.
George Henry Walker.
Thomas Iswel Watkins.
Gilbert Harry Whiting.
John Leslie Wild.
Herbert Newton Wilson.
Eric Charles Wood.
Andrew Robertson Wylie.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday 12th May. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Alexander, William Alastair, B.Sc. (Lond.), A.I.C. British. 11, Arden Street, Edinburgh. Analytical and Consulting Chemist.
Signed by : Russell G. Thin, James Sandilands, Hugh B. Nisbet.

Allam, Philip Sidney, B.Sc. (Lond.), A.I.C., F.C.I.P.A. British. Bush House, Aldwych, W.C. 2. Patent Agent.
Signed by : F. G. Donnan, H. Drake Law, James G. Fyfe.

Allison, Harry, B.Sc. (Reading), A.I.C. British. 41 Meadow Drive, Portmadoc. Works Chemist.
Signed by : J. L. Simonsen, L. N. Owen, G. R. Ramage.

Anderson, Frank William, B.Sc. (Lond.), A.I.C. English. 20, Lulworth Close, South Harrow.
Signed by : H. Jephcott, F. A. Robinson, B. Arthur Hems.

Armour, Janet Foote, B.Sc. (Glas.) British. 22, Nottingham Avenue, Glasgow, W. 2. Chemist United Dairies (Scotland), Ltd.
Signed by : J. W. Cook, John W. Kerr, T. S. Stevens.

Ashmore, Stanley Arthur, B.Sc. (Lond.), F.I.C. British. Strand, W.C. 2. Senior Chemist in Government Laboratory.
Signed by : F. R. Ennos, J. W. J. Fay, E. H. Warren.

Bailey, George Cooper, B.Sc. (Lond.), F.I.C. British. 68, Belgrave Road, Ilford. Captain R.A. Late Chemist to Gas Light and Coke Co.
Signed by : W. G. Adam, Chas. A. Ray, F. M. Potter.

Bain, Harold Graeme, B.Sc., M.Sc., Ph.D. (Cape Town), A.I.C. British. c/o McMurray, 36, Sidney Street, Saltcoats, Ayrshire. Chemist.
Signed by : F. Douglas Miles, A. G. White, J. Weir.

Baird, Kirk, A.I.C. British. 1, Kingsville Road, Bebington. Chemist to Lever Brothers and Unilever, Ltd.
Signed by : F. Montague Dyke, J. R. Edisbury, A. D. Scott.

Balfe, Bernard James, B.Sc. Hons. (Lond.) A.I.C. British. Stowmarket. Research Chemist to I.C.I. (Paints), Ltd.
Signed by : John W. Corran, R. L. Edwards, P. F. Stoton.

Banks, Adam, B.Sc. and Ph.D. (L'pool), A.I.C. British. Aberdeen. Scientific Officer, D.S.I.R.
Signed by : Stephen R. H. Edge, W. Godden, Alex. Findlay.

Banks, Reginald Joseph Henry, B.Sc. Hons. (Lond.), A.I.C. British. Eastern Esplanade, Southend-on-Sea. Chemist (Research and Process control), Gas Works.
Signed by : H. Hollings, H. M. Royle, W. A. Voss.

Bann, Bernard, B.Sc. Hons., and M.Sc. (Manc.), A.I.C. British. 3, Wellington Grove, Stockport. Research Chemist to Manchester Oxide Co.
Signed by : W. Bradley, Denis Dickinson, T. K. Walker.

Beaumont, Glynne Wentworth, F.I.C. British. Harbourmaster's Old House, Liverpool. Partner in firm of Analysts.
Signed by : F. Robertson Dodd, A. P. Telford, A. E. Findley.

Bennister, Henry Leonard, M.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C. British. 3, Englewood Road, Clapham Common, S.W. 12. Industrial Chemist.
Signed by : Anthony Cambitzi, Alexander King, H. J. T. Ellingham.

Bennitt, John Hector, M.A. (Cantab.), A.I.C. British. Tyseley, Birmingham. Research Chemist.
Signed by : T. T. Jones, J. A. V. Potter, J. W. Hewitt.

Benoliel, Maurice Haim, Inter B.Sc. (Manc.) British. Oak House, New Longton. Works Chemist.
Signed by : Colin Campbell, Colin Core, E. Taylor.

Bhattacharya, Ramkanta, M.Sc. (Allahabad), Ph.D. (L'pool), F.I.C. British. Grassmarket, Edinburgh. Officer in charge of a Research Laboratory.
Signed by : A. McGookin, R. A. Morton, T. S. Subramamian.

Billing, Joseph, A.I.C. British. 41, Sunny Grove, Chaddesden. Works Chemist.
Signed by : D. S. M. Davis, Allan Domleo, William Alexander Dickie.

Blayden, Herbert Edward, B.Sc. Hons. (Lond.), Dip. Pure and Applied Chem., Mining and Tech. Coll., Wigan. British. 35, Granville Drive, Forest Hall. Senior Research Chemist to the Northern Coke Research Laboratory.
Signed by : H. L. Riley, Wesley Cocker, C. E. Mallen.

Boscott, Ronald Joseph, A.I.C., Ph.C. British. 20, Cecile Park, Crouch End, N. 8. Chemist to a firm of Chemical Manufacturers.
Signed by : R. R. Bennett, Francis H. Carr, P. G. Marshall.

Bradley, George William James, F.I.C., M.I.Gas Eng., A.R.P.S. British. Birchill Lodge, Hasland. Manager of Coke Oven Department of The Grassmoor Co., Ltd.
Signed by : G. A. Hebden, R. Belcher, R. L. Collett.

Brandon, Thomas William, B.Sc. Hons. (Lond.), A.I.C. British. Town Hall, Woolwich S.E. 18. Analytical and Research Chemist.
Signed by : Arthur I. Vogel, G. H. Jeffery, F. Mathie.

Brash, John Calder, B.Sc. Hons. (Edin.), A.I.C. British. 65, Spottiswoode Street, Edinburgh, 9. Teacher of Chemistry.
Signed by : James Sandilands, Hugh B. Nisbet, Robert G. M. Dakers.

Briscoe, Myer, B.Sc. (Lond.), F.I.C. British. 10, Banstead Road South, Sutton. Director of the Gardinol Chemical Co., Ltd.
Signed by : J. J. Fox, B. A. Ellis, R. L. Collett.

Brown, John Ferguson, B.Sc. (Glas.), A.I.C. British. 2, Rhynie Drive, Glasgow. Chief Chemist to a Co-operative Wholesale Society.
Signed by : John W. Kerr, J. W. Cook, T. S. Stevens.

Burke, Shuldham Archibald, B.Sc. and Ph.D. (Lond.), A.R.C.S., D.I.C. British. Highfield, Coldra Estate, Newport. Research Chemical Engineer.
Signed by : James C. Philip, H. J. T. Ellingham, R. H. Purcell.

Butcher, James Anthony, B.Sc. Hons. (Leeds), A.I.C. British. 1, Bright Eyes Road, Lofthouse. Analytical Chemist in the Ministry of Supply.
Signed by : Kenneth D. Wadsworth, Arnold Woodmansey, W. A. Wightman.

Calvert, John Thornton, M.A. and B.Sc. (Oxon.) M.S. (Mass. Tech. Inst.), A.I.C. British. Caxton House, Westminster, S.W. 1. Technical Assistant.
Signed by : Allan C. Monkhouse, H. T. Calvert, R. L. Collett.

Cardwell, Hugh Maitland Elliott, B.A. (Oxon.) British. Surgates, Marley, Exmouth. Technical Officer, H.Q. I. Corps, Home Forces.
Signed by : D. W. Adamson, H. N. Rydon, A. G. Lidstone.

Chandler, Norman Cecil, A.I.C. British. 14 Park Terrace, Gourock. Chief Chemist.
Signed by : F. J. Wilson, W. M. Cumming, A. B. Crawford.

Chappel, Edgar John, A.I.C. British. Graham Street, N. 1. Analyst.
Signed by : W, A. Johnson, Noel L. Allport, P. G. Marshall.

Chirnside, Ralph Clark, F.I.C. British. Wembley. Research and Analytical Chemist.
Signed by : E. B. Hughes, C. Ainsworth Mitchell, F. W. Edwards.

Christian, Harold William, B.Sc. (Lond.), A.I.C. British. 87, Hartington Road, Chiswick, W. 4. Chemist.
Signed by : L. H. Lampitt, E. B. Hughes, E. M. Jackson.

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Signed by : Leslie H. Lampitt, E. B. Hughes, A. E. Bradfield.

Rosebery, Marcus, B.Sc. (Lond.), A.R.C.S., A.I.C. British. 14, Burnham Road, Liverpool. Research Chemist and Departmental Manager.
Signed by : R. A. Morton, A. McGookin, T. P. Hilditch.

Ross, George Ronald Percival, M.Sc. (Leeds), A.I.C. British. Ditton, Widnes. Research Chemist, The Forestal Land, Timber and Railways Co., Ltd.
Signed by : J. J. Fox, B. A. Ellis, R. L. Collett.

Ross, Peter, B.Sc. (Glas.), A.I.C., A.R.T.C. Royal Technical College, Glasgow. British. 21, Great Western Road, Glasgow, C. 4. Admiralty Laboratory.
Signed by : John A. Cranston, F. J. Wilson, I. Vance Hopper.

Rumford, Frank, B.Sc. (Lond.), F.I.C., A.M.I.Chem.E. British. Royal Technical College, Glasgow. Lecturer in Technical Chemistry.
Signed by : W. M. Cumming, A. B. Crawford, I. Vance Hopper.

Savage, Ronald Henry Maxwell, B.A. (Cantab.), F.I.C. British. 19, Derwent Avenue, Mill Hill, N.W. 7. Chemist.
Signed by : Frank Dickens, Eric K. Rideal, H. McCombie.

Settle, Richard Hardcastle, B.A. (Cantab.), F.I.C. British. 42, Stoke Road, Taunton. Chemist (Higher Grade), Government Laboratory.
Signed by : J. R. Nicholls, A. G. Francis, Francis G. H. Tate.

Sharp, David Easton, B.Sc. (Aberd.), F.I.C. British. 77, Eglinton Road, Ardrossan. Technical Chemist.
Signed by : Norman Picton, J. J. Fox, R. L. Collett.

Shaw, Frank, B.Sc. and M.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C. British. Corporation Street, Birmingham, 4. Dairy Chemist.
Signed by : G. A. Jeffrey, F. J. Llewellyn, F. Smith.

Shepherd, Evelyn Henry, B.Sc. (Lond.), F.I.C. British. 3, Caroline Place, Claughton, Birkenhead. Chemist.
Signed by : R. F. Hunter, G. P. Gibson, A. D. Scott.

Simmons, Thomas Arthur, B.Sc. (Lond.), F.I.C. British. 18, Rumbold Road, Edgerton, Huddersfield. Chemist and Works Department Manager.
Signed by : H. Swann, E. H. Rodd, Samuel Coffey.

Simmons, William Hall, F.I.C., A.M.I.Chem.E. British. Waltham Abbey. Chemist.
Signed by : Denis Ian Duveen, John Rankin, J. Kenyon.

Skilling, William James, A.R.T.C., F.I.C. British. Royal Technical College, Glasgow. Officer-in-charge, Fuel Research Board, D.S.I.R.
Signed by : John A. Cranston, I. Vance Hopper, Nora Innes Good.

Smee, Frederick Henry, M.Sc. (Lond.), A.I.C. British. Chapel Lane, High Wycombe. Works Chemist.
Signed by : Thos. Macara, L. C. Campbell, Eileen M. Chatt.

Smith, Reginald Francis, B.Sc. Hons. (Lond.), A.I.C. British. 66, Wychwood Avenue, Canons Park, Edgware. Analytical Chemist.
Signed by : Leslie H. Lampitt, E. B. Hughes, A. E. Bradfield.

Somers, Arthur Joseph, B.Sc. (Lond.), A.I.C., A.R.C.S. British. Daneshill, Oxshott, Leatherhead. Sales Manager.
Signed by : James C. Philip, A. A. Eldridge, C. W. Davies.

Stammers, Douglas William, Ph.D. and B.Sc. (Lond.), A.I.C. British. "Leighwood," 3, Holland Road, Manchester. Research Chemist.
Signed by : Samuel Coffey, Percy Chorley, G. A. Rowe.

Stevens, William Stanley, B.Sc. Hons. (Lond.), A.I.C., Dip. Loughborough College. British. 19, High Street, Castle Donington, nr. Derby. Research Chemist.
Signed by : C. Whitworth, J. M. Connolly, G. Malcolm Dyson.

Stevenson, Samuel Gordon, M.Sc., B.Pharm (Lond.), F.I.C., Ph.C., A.M.I.Chem.E. British. The Peak, Vyne Road, Basingstoke. Chief Chemist to Messrs. Eli, Lilly & Co., Ltd.
Signed by : A. L. Bacharach, F. A. Robinson, W. H. Linnell, B. Arthur Hems.

Stuart, Noel, B.Sc. and Ph.D. (L'pool), A.I.C. British. Wyncote, Dunsdon Avenue, Guildford. Joint Chief Chemist to a firm of manufacturers of Milk Foods and other milk products.
Signed by : John W. Corran, A. McGookin, Francis W. Kay.

Tait, John William, M.A., B.Sc. (Edin.), F.I.C. British. 9, South Beach Road, Ardrossan. Assistant Research Manager.
Signed by : J. Weir, F. Douglas Miles, N. Picton.

Taylor, Wallace, B.Sc. Hons. and M.Sc. (Manc.), A.I.C. British. Carrington Cottage, Leigh Road, Leigh. Research Chemist.
Signed by : W. Bradley, T. K. Walker, Denis Dickinson.

Thomas, Harold Norman, B.Sc. (Leeds), A.I.C. British. 6B, Selbourne Road, Watford. Assistant (Grade III) in the D.S.I.R. (Water Pollution Research Station).
Signed by : A. Parker, J. Grindley, J. F. Hopkins.

Thomson, John Kirk, Ph.D. (Glas.), A.R.T.C., A.I.C. British. Wyngate, Majors Place, Falkirk. Research Chemist.
Signed by : P. J. Loveluck, E. G. Beckett, J. L. Grieve.

Thomson, Thomas, B.Sc. and Ph.D. (Glas.), A.I.C. British. 28, Irvine Road, Kilmarnock. Research Chemist.
Signed by : Norman Picton, Robert W. E. Preston, T. S. Stevens, F. R. Storrie.

Thompson, Frank Clifford, M.Sc. (Dun.), A.I.C. British. The Agricultural Institute, Kirton. Agricultural Chemist.
Signed by : G. R. Clemo, R. Raper, C. E. Mallen.

Trower, Geoffrey John, A.I.C., A.R.C.S. British. The Laboratory, Messrs. Roneo, Ltd., Romford. Plant and Process Control.
Signed by : J. E. B. Price, H. I. T. Ellingham, James C. Philip.

Tucker, John Morgan, B.Sc. (Lond.), F.I.C. British. Undercliffe, Kirkhead Road, Grange-over-Sands. Industrial Chemist. Consulting Practice Cereals, Feeding Stuffs, Foods.
Signed by : F. Robertson Dodd, A. P. Telford, A. E. Findley.

Vale, Alan Leslie, B.Sc. (Lond.), F.I.C. British. 40, Granville Road, Blackburn. Chemist and Bacteriologist to Messrs. Duttons, Blackburn Brewery, Ltd.
Signed by : F. Bell, J. E. Wynfield Rhodes, F. P. Dunn.

Walker, Thomas Richard, M.A. (Cantab.), F.I.C. British. 11, Broomgrove Crescent, Sheffield. Chief Chemist and Technologist to a Steel Works.
Signed by : N. D. Ridsdale, Arthur W. Chapman, R. L. Collett.

Waller, Leo James, A.I.C., Ph.C. British. 37, London Road, Croydon. Analytical Chemist.
Signed by : C. T. Bennett, J. C. Crocker, Douglas C. Harrod.

Ward, Leslie James, B.Sc. Hons. (Lond.), A.I.C. British. 42, Derry Downs, St. Mary Cray. Assistant II. Chemical Inspection Dept., Ministry of Supply.
Signed by : J. E. Crofts, F. Barrow, F. J. Woodman.

Watson, James Kerr, B.Sc. Hons. (Glas.), A.I.C. British. 176, Ledard Road, Langside, Glasgow. Analytical and Works Control Chemist.
Signed by : Robert W. G. Preston, T. S. Stevens, F. R. Storrie.

Wheatley, Robert, B.Sc. (Leeds), F.I.C., F.I.R.I. British. Lasswadebank, Polton Road, Lasswade. Works Manager to a Rubber Company.
Signed by : W. Lowson, J. W. Baker, H. J. Hodsman.

Wheeler, Edgar Philip, B.Sc. (Lond.), A.I.C. British. 47, Park Hill Road, Wallington. Analytical Chemist.
Signed by : Francis H. Carr, W. A. Johnson, Noel L. Allport.

Whitehouse, Alan George Raine, M.Sc., Ph.D. (Birm.), F.I.C. British. 15, Wye Cliff Road, Handsworth, Birmingham, Staff Chemist.
Signed by : R. H. Hopkins, E. G. Cox, W. J. Hickinbottom, S. R. Carter, F. Smith, C. R. Porter.

Whitelegg, Cyril James, M.Sc.Tech. (Manc.), F.I.C., A.T.I. British. Hollin Cottage, Styal, Manchester. Chemist.
Signed by : Wm. Scholes, R. L. Collett, J. J. Fox, B. A. Ellis.

Wilkinson, Donald Graham, B.Sc., Ph.D. (L'pool), A.I.C., British. 2, Carver Avenue, Prestwich, Manchester. Research Chemist.
Signed by : Arnold Kershaw, Samuel Coffey, C. L. Wilson.

Wilson, William John, F.I.C., A.C.G.I., F.Inst.Pet. British. Fairlawn, Honor Oak Road, Forest Hill, S.E. 23. Head of Research Department, The Burmah Oil Co., Ltd.
Signed by : A. E. Dunstan, Donald N. L. Besly, S. F. Birch.

Withell, Ernest Ronald, B.Sc. and B.Pharm. (Lond.), Ph.C., A.I.C. British. Central Technical College, Birmingham, 2. Head of Dept. of Pharmacy and Biology.
Signed by : J. Newton Friend, J. Cooper Duff, R. H. Vallance.

Worthington, Henry, B.Sc., Ph.D. (L'pool), A.I.C. British. 40, Shaw Street, St. Helens. Research Chemist, I.C.I. Dyestuffs, Ltd.
Signed by : Percy Chorley, A. W. Baldwin, H. A. Piggott.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Strausz, Hugo Johann, Ph.D. (Halle), Chem. Engineer. German, previously Czecho-Slov. and Hungarian. N.W. 3.
Signed by : T. F. West.

* Reduced Annual Subscriptions.

PAPERS RECEIVED

List of papers received between March 24th and April 24th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" The photo-decomposition of gaseous acetone. Part II." By R. SPENCE and W. WILD.

" A synthesis of dihydroindole, dihydrothionaphthen, and dihydrobenzofuran." By G. M. BENNETT and M. M. HAFEZ.

" Optically active $\alpha\gamma$-diethylallyl alcohol." By B. C. PLATT.

" The condensation of 6-amino-2-hydroxypyridine with *p*-acetamidobenzenesulphonyl chloride." By M. A. PHILLIPS.

" Electrolytic dissociation processes. Part III. The exchange of radio-bromine between inorganic and organic bromides." By F. FAIRBROTHER.

" The constituents of natural phenolic resins. Part XIX. The action of formalin on 4-keto-6 : 7-dimethoxy-1-veratryl-1 : 2 : 3 : 4-tetrahydronaphthalene-2-carboxylic acid." By R. D. HAWORTH and G. SHELDRICK.

" The separation of ozone from other gases." By J. L. EDGAR and F. A. PANETH.

" The determination of ozone and nitrogen dioxide in the atmosphere." By J. L. EDGAR and F. A. PANETH.

" The pinacol–pinacolone rearrangement of phenyl-substituted benzopinacols." By H. H. HATT, A. PILGRIM, and (MISS) E. F. M. STEPHENSON.

" The formation of methylene ethers by the action of diazomethane on α-ketolactones and on diphenyl-1 : 2 : 3-triketone, with a note on the pyrolysis of coumarandione and allied substances." By A. SCHÖNBERG, R. MOUBASHER, and (in part) (MISS) A. MOSTAFA.

ADDITIONS TO THE LIBRARY

I. *Donations.*

BRITISH PLASTICS YEAR BOOK, 1941. The handbook and guide to the plastics industry. London 1941. pp. 468. (*Reference.*) 15*s*. net.
From the Publishers : Plastics Press, Ltd.

BRITISH RUBBER PUBLICITY ASSOCIATION. Abstracts of patents relating to rubber latex. By T. R. DAWSON and R. W. PARRIS. A supplement to " Rubber latex." London 1941. pp. vi + 136. (*Recd.* 13/3/41.)
From the Association.

KHIMIYA TVERDOGO TOPLIVA. (Chemistry of Solid Fuel.) Vols. II–VIII. Leningrad 1931–37. (*Reference.*) [*Vols.* IV, V, *and* VIII *incomplete.*] From Dr. R. Lessing.

STENHOUSE, JOHN. Laboratory book. [A MS. volume dating from 1854–1872, recording analyses made for clients, with many original letters inserted.] From Dr. R. Lessing.

TEPLOSILVOE KHOZYAISTVO. (Heat and Power Economy.) Vols. XV and XVI. [*Incomplete.*] Moscow 1939–40. (*Reference.*)
From Dr. R. Lessing.

ZECHMEISTER, L., and CHOLNOKY, L. Principles and practice of chromatography. Translated from the 2nd German edition by A. L. BACHARACH and F. A. ROBINSON. London 1941. pp. xviii + 362. ill. 25*s*. net. (*Recd.* 1/4/41.) From the Translators.

II. *By Purchase.*

HIGH POLYMERS. A series of monographs on the chemistry, physics, and technology of high polymeric substances. Vol. I. Collected papers of WALLACE HUME CAROTHERS. Edited by H. MARK and G. STAFFORD WHITBY. New York 1940. pp. xx + 459. ill. $8.50. (*Recd.* 3/4/41.)

—— —— Vol. II. Physical chemistry of high polymeric systems. By H. MARK. Translated from the manuscript by K. SINCLAIR. Revised by J. EDMUND WOODS. New York 1940. pp. x + 345. ill. $6.50. (*Recd.* 3/4/41.)

III. *Pamphlets.*

CALCAGNI, G. La conducibilità elettrica. Genova 1940. pp. 56.

HARRY, RALPH G. " Skin penetration." (From the *Brit. J. Derm.*, 1941, 53.) ill.

INDIAN TEA ASSOCIATION. *Tocklai Experimental Station.* Annual Report—1939. Calcutta 1940. pp. 33.

UNITED STATES. *Department of Agriculture.* Miscellaneous Publication No. 387. Turpentine still buildings and equipment. Washington 1940. pp. 43. ill.

TECHNOLOGY DEPT.

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May 1941

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING MEETING.

IN LONDON.

Thursday, June 19th, at 4.15 p.m. **Tilden Lecture,** entitled "Vitamins of the B Group," to be given by Professor A. R. Todd, D.Sc., D.Phil., at Burlington House.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT CARDIFF, APRIL 18th.

A meeting of the Society was held jointly with the local sections of the Institute of Chemistry and the Society of Chemical Industry at 6 p.m. on Friday, April 18th, 1941, at the University College, Cardiff, when Dr. Janet W. Matthews delivered a **lecture** entitled, "Some Recent Developments in Microchemistry." The lecturer surveyed the methods available for microchemical analysis in both the inorganic and the organic fields. In addition to an exhibition of apparatus, three films were shown in which the manipulation of minute apparatus was demonstrated. In the discussion which followed Dr. D. P. Evans, Mr. Kernick, and Dr. N. M. Cullinane (the Chairman) took part. A cordial vote of thanks to the lecturer was proposed by Mr. D. Hicks, seconded by Mr. de Lacy and enthusiastically received. There were forty persons present.

LECTURE AT LEEDS, MAY 13th.

A large and enthusiastic audience gathered to hear the **Eighth Liversidge Lecture,** entitled "Complex Formation," delivered by Prof. N. V. Sidgwick, C.B.E., F.R.S., in the Large Chemistry Lecture Theatre of the University on Tuesday, May 13th, at 7.30 p.m., Professor R. Whytlaw Gray, F.R.S., occupying the chair. Thanks to the kind permission of Professor Sidgwick, this interesting and stimulating lecture was followed by a discussion to which many members contributed. A cordial vote of thanks to the lecturer, proposed by Professor M. G. Evans and seconded by Professor F. Challenger, was carried with acclamation.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W.1, on Thursday, May 15th, 1941, at 4.15 p.m.

The PRESIDENT, PROFESSOR J. C. PHILIP, O.B.E., D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting on April 24th, 1941, were read, and confirmed and signed.

The PRESIDENT referred to the loss sustained by the Society, through death, of the following Fellows:

	Elected.	Died.
Lancelot S. Bagster	1933	14th March, 1940.
James Bell	1922	24th January, 1941.

FORMAL ADMISSION OF FELLOWS.

Dr. Hubert H. Chambers was formally admitted a Fellow of the Chemical Society.

EIGHTH LIVERSIDGE LECTURE.

After a brief introduction, the President called on Professor N. V. Sidgwick to deliver his **Liversidge Lecture,** entitled "Complex Formation."

A vote of thanks to the Lecturer, proposed by Professor W. Wardlaw and seconded by Dr. E. G. Cox, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

CONGRATULATIONS.

The PRESIDENT stated that an Address of Congratulation had been received from the Institute of Chemistry regarding the Centenary of the Society, and that he had conveyed the congratulations of the Council to Mr. A. E. Bell, Dr. R. P. Charles, Professor G. J. Fowler, Professor F. S. Kipping, Dr. A. Lauder, and Mr. A. Searl, who completed 50 years of Fellowship on May 7th, 1941.

CONTRIBUTION.

The PRESIDENT announced that £400 had been allocated to the Society by the Royal Society from the Rockefeller Foundation Grant in aid of Scientific Publications, and that the Council have conveyed the thanks of the Society to Professor W. E. Garner, Dr. H. G. Rule, Mr. F. W. Kirkbride, and Mr. W. G. Polack for contributions to the Publications Fund.

HARRISON MEMORIAL PRIZE.

In accordance with the Trust Deed governing the Harrison Memorial Fund, the Selection Committee consisting of the Presidents of the Chemical Society, the Institute of Chemistry, the Society of Chemical Industry, and the Pharmaceutical Society, will proceed to make an award of the Harrison Memorial Prize in December next.

The Prize, of the value of about £150, will be awarded to the chemist of either sex, being a natural-born British subject and not at the time over thirty years of age, who, in the opinion of the Selection Committee, during the previous five years has conducted the most meritorious and promising original investigations in any branch of pure or applied chemistry and published the results of those investigations in a scientific periodical or periodicals.

Provided that, in the opinion of the Selection Committee, there is a candidate of sufficient distinction to warrant an award of the Prize, the next award will be made in December, 1941.

Applications, five copies of which must be submitted, should contain the following information :—

(*a*) Name (in full).
(*b*) Age (Birth certificate must accompany application).
(*c*) Degrees (name of University where obtained).
(*d*) Other qualifications.
(*e*) Experience.
(*f*) Titles of published papers, with authors' names, including full references to publication.
(*g*) Where research was carried out.
(*h*) Testimonials or references.
(*i*) Any other particulars bearing on the application.

The Selection Committe is prepared to receive applications, nominations, or information as to candidates eligible for the Prize. Any such communication must be received by

The President,
The Chemical Society,
Burlington House,
Piccadilly,
London, W.1.

not later than Monday, December 1st, 1941.

FIRE WATCHING.

In order that the Library of the Society may be fully safeguarded, offers of service are invited from Fellows who would be willing to volunteer to take part in the Fire Fighting Service at Burlington House. Offers of service have already been received, and it is

unlikely that any volunteer will be asked to serve more frequently than once in 14 days. A subsistence allowance of 5*s*. per night will be made and other out-of-pocket expenses will be met.

Fellows willing to volunteer are asked to communicate with the General Secretary.

FELLOWSHIP.

The resignations of 2 Fellows have been accepted, 4 Fellows have been reinstated, and the following 185 new Fellows have been elected :

William Alastair Alexander.
Philip Sidney Allam.
Harry Allison.
Frank William Anderson.
Janet Foote Armour.
Stanley Arthur Ashmore.
George Cooper Bailey.
Harold Graeme Bain.
Kirk Baird.
Bernard James Balfe.
Adam Banks.
Reginald Joseph Henry Banks.
Bernard Bann.
Glynne Wentworth Beaumont.
Henry Leonard Bennister.
John Hector Bennitt.
Maurice Haim Benoliel.
Ramkanta Bhattacharya.
Joseph Billing.
Herbert Edward Blayden.
Ronald Joseph Boscott.
George William James Bradley.
Thomas William Brandon.
John Calder Brash.
Myer Briscoe.
John Ferguson Brown.
Shuldham Archibald Burke.
James Anthony Butcher.
John Thornton Calvert.
Hugh Maitland Elliott Cardwell.
Norman Cecil Chandler.
Edgar John Chappel.
Ralph Clark Chirnside.
Harold William Christian.
Leslie Victor Cocks.
Edward Barnard Colegrave,
Douglas Richard Keeler Coleman.
James Stewart Cook.
Percy Frederick Cooke.
Eric Leslie Cooper.
Charles William Cornwell.
Robert Frederick Corran.
Harold Edward John Cory.
Aynsley Crawford.
John Crawford.
William Aethelbert Damon.
Peter Victor Danckwerts.
Albert Davies.
Howard Merrett Davies.
Trefor Davies.
Gilbert Elliott Dodds.
Cedric Alfred Friend Doe.
Gordon Watson Douglas.
Ernest Percy Driscoll.
John Gibson Duncan.
John Ronald Macfarlane Duncan.
George Geoffrey Durrant.
Neville Bingham Dyson.
Alexander Peter Tawse Easson.
George William Ellis.
Wilfred Farrand Elvidge.
Harry Taylor Farrar.
Franklin Farrington.
William Hunter Ferguson.
George James Watson Ferrey.
Kenneth George Fiegenheim.
Eli Finklestone.
Ernest Foley.
Wilfrid Francis.
Alan French.
Norman Alfred Child Friend.
Water Furness.
Eric Richard Gardner.
Walter Garner.
Kenneth William Gee.
Alexander Gellman.
Walter Joseph Gooderham.
Alexander Brown Gordon.
Frank James Griffin.
Leonard Arthur Haddock.
Eric Morgan Hall.
Kenneth Hailstone Handy.
Vernon Harbord.
Bernard Ernest Harper.
William Harrison.
Gerard Hart.
John William Hawley.
Kenneth John Hayden.
Clifford Walter Herd.
Alfred Henry Hewitt.
Bernard Hickson.
Cyril Langley Hinton.
John William Ingham.
Robert Faraday Innes.
John McGregor Jackson.
Derek Evan Jarrett.
Leonard Ellwood Jones.
Geoffrey James Judge.
James Kentish.
Matthew Arnold Kershaw.
James Donald Kidd.
Kenneth Stanley Kirby.
Norman Watson Knewstubb.
Douglas Lamping.
Henry Thomas Lester.
David Alexander Liddell.
Edgar Roberts Ling.
John Arnold Lovern.
William Joseph Lowe.
Bernard Dunstan Wilkinson Luff.
Geoffrey Herbert Macadam.
George Walker McCrea.
Percy McGregor.
John Aitken Macnair,
Ernest Marsden.
Hubert Martin.

Albert Charles Mason.
Edward Miller Melville,
William John Metcalfe.
John Robertson Muir.
Donald Sanderson Naylor.
Archibald Alan New.
Ronald Frederick Nunn.
George Frederick Oliver.
Jasper Bartlett O'Sullivan.
Edith Marie Pam.
Deric William Parkes.
Alfred Pass.
Harry Paul.
Ernest Pedley.
Herbert Steffen Peiser.
Robert Geoffrey Popple.
Albert Pound.
Herbert Frederick Rance.
Robert George Rance.
Theodore Rendle.
Ralph Frederick Reynolds.
Arthur Henry Rheinlander.
William Kenneth Rhodes.
Henry Martin Richardson.
Emyr Roberts.
Charles Herbert Preston Robinson.
Frederick John Robinson.
Edward Stanley Fairfield Rogans.
Horace Samuel Rooke.
Marcus Rosebery.
George Ronald Percival Ross.
Peter Ross.
Frank Rumford.
Ronald Henry Maxwell Savage.
Richard Hardcastle Settle.
David Easton Sharp.
Frank Shaw.
Evelyn Henry Shepherd.
Thomas Arthur Simmons.
William James Skilling.
Frederick Henry Smee.
Reginald Francis Smith.
Arthur Joseph Somers.
Douglas William Stammers.
William Stanley Stevens.
Samuel Gordon Stevenson.
Hugo Johann Strausz.
Noel Stuart.
John William Tait.
Wallace Taylor.
Harold Norman Thomas.
John Kirk Thomson.
Thomas Thomson.
Frank Clifford Thompson.
Geoffrey John Trower.
John Morgan Tucker.
Alan Leslie Vale.
Thomas Richard Walker.
Leo James Waller.
Leslie James Ward.
James Kerr Watson.
Robert Wheatley.
Edgar Philip Wheeler.
Alan George Raine Whitehouse.
Cyril James Whitelegg.
Donald Graham Wilkinson.
William John Wilson.
Ernest Ronald Withell.
Henry Worthington.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, 16th June. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Abbott, Gordon Henry, M.A. (Oxon.), A.I.C. British. 9, Westcombe Park Road, Blackheath, S.E. 3. Works and Research Chemist.
Signed by : H. J. Emeléus, D. L. Chapman, R. Leslie Collett.

Allchin, John Pratt, A.I.C. British. 28, Yardley Road, Acocks Green, Birmingham. Chemist and Bacteriologist.
Signed by : J. N. Friend, R. H. Vallance, J. Cooper Duff.

Archard, Theodore Edward, M.Sc. (Lond.), A.I.C. British. White Hart Hotel, Boston, Lincs. Works Chemist with firm of Canners.
Signed by : J. Masson Gulland, W. B. Adam, A. A. Eldridge.

Arundel, Edgar, B.Sc. (Lond.), F.I.C. British. Sherwood House, The Avenue, London Road, Newark-on-Trent, Notts. Analytical and Research Chemist.
Signed by : Henry Terrey, L. F. Gilbert, H. J. Evans.

Baldry, Frank, A.I.C. British. 14, Stonehaven Grove, Hall Green, Birmingham, 28. Analytical and Research Chemist.
Signed by : J. S. Jennings, Garfield Thomas, H. A. Caulkin.

***Baldwin, Robert Roy,** B.A. (Cantab.). British. 10, Oarside Drive, Wallasey, Cheshire. Research at Cambridge.
Signed by : C. H. Bamford, F. S. Dainton, G. J. Stacey.

Barash, Michael, Ph.D., M.Sc.Tech. (Manc.), M.Inst. Gas E., F.I.C. British. 70, Parsonage Road, Withington, Manchester, 20. Technical Officer, Mines Department.
Signed by : F. Fairbrother, G. N. Burkhardt, F. S. Spring.

Barke, Harold Frederick, F.I.C. British. 4, Charlton Road, Westbury-on-Trym, Bristol. Analytical and Consulting Chemist, Public Analyst.
Signed by : E. B. Maxted, E. L. Hirst, J. K. N. Jones.

Barnett, George, A.I.C. British. 103, Holly Lane, Smethwick, Staffs. Research Chemist, Bakelite, Ltd.
Signed by : T. T. Jones, E. G. K. Pritchett, George Dring.

Barron, Lionel Fitzgerald, M.Sc. (Lond.), A.I.C. British. 32, Upper Addison Gardens, Kensington, W. 14. Analytical Chemist.
Signed by : P. Bilham, E. B. Hughes, A. E. Bradfield.

Bennett, William, M.Sc. (Leeds), A.I.C. British. 53, Woodlands Road, Isleworth, Middlesex. Chief Process Chemist.
Signed by : F. Thomas, Arthur G. Green, Harry S. Sayer.

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Signed by : A. B. Crawford, I. Vance Hopper, H. G. A. Anderson.

Rogers, Sydney John, B.Sc. (Lond.), F.I.C. British. "Wanstead," Loudwater Lane, Rickmansworth, Herts. Research and Works Chemist, Gas Light & Coke Company.
Signed by : M. MacCormac, R. H. Griffith, W. A. Voss.

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Signed by : A. G. G. Leonard, A. O'Farrelly, T. J. Nolan.

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Signed by : R. Spence, Norman M. Comber, W. Wild.

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Signed by : J. S. Jennings, Garfield Thomas, H. A. Caulkin.

Sewell, William Gawan, M.Sc. (Leeds), A.I.C. British. West China Union University, Chengtu, China. Professor of Chemistry at West China Union University, Chengtu, China.
Signed by : Frederick M. Rowe, J. W. Baker, H. Burton.

Sharples, Edwin Holroyd, M.Sc.Tech. (Manc.), A.I.C. British. "Sunnymead," Leamington Road, Kenilworth, Warwickshire. Research Chemist, Courtaulds, Ltd.
Signed by : Walter H. Glover, Ernest E. Tallis, C. B. O. Jones.

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Signed by : F. Barrow, George W. Ferguson, D. J. G. Ives.

Sowter, Percy Frederick Combe, B.Sc.Hons. (Lond.), A.R.C.S., A.I.C. British. "Lyndon," Flaxholme, Duffield, Derby. Industrial Chemist.
Signed by : James C. Philip, H. J. T. Ellingham, A. A. Eldridge.

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Signed by : A. C. C. Newman, F. R. Cropper, E. Haworth.

Stansfield, Frank, B.Sc.Hons. (Manc.), A.I.C. British.
Signed by : Alex. R. Todd, H. T. Openshaw, F. S. Spring.

Stickland, Frederick George William, B.Sc.Hons. (Lond.), A.I.C., A.I.R.I. (Sc.). British. 13, Wellington Avenue, Chingford, E. 4. Analytical Chemist and Research Chemist, Siemens Bros. & Co., Ltd.
Signed by : E. de Barry Barnett, N. F. Goodway, R. A. E. Galley.

Stones, Thomas, B.Sc. (Lond.), A.I.C. British. 91, Queens Road, Blackburn, Lancs. Assistant Chemist, Blackburn Corporation Sewage Works.
Signed by : F. Bell, J. E. Wynfield Rhodes, S. Tomlinson Jones.

Stott, Richard Whitefield, M.A. (Cantab.). British. 2, Southfield, The Crescent, Rugby. Science Master at Rugby School.
Signed by : Hamilton McCombie, S. R. Carter, W. N. Haworth.

Stuart, John Kenneth, B.Sc. (Sheffield), A.I.C. English. 2, Havelock Square, Sheffield, 10. Technical Assistant, Ministry of Supply. Normal Occupation—Chemistry Master.
Signed by : J. J. Fox, I. M. Heilbron, R. Leslie Collett.

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Signed by : E. de Barry Barnett, A. R. Martin, Henry J. S. Sand.

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Signed by : W. H. Mills, F. S. Dainton, R. G. W. Norrish.

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Signed by : Thomas Kennedy Walker, O. Rhys Howell, John K. Wood, William Bradley.

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Signed by : S. Horwood Tucker, Andrew Kent, T. S. Stevens.

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Signed by : C. Chilvers, E. B. Evans, F. H. Garner.

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Signed by : H. V. A. Briscoe, A. A. Eldridge, H. J. Emeléus.

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Signed by : H. Lambourne, W. Taylor, J. W. Cook.

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Signed by : A. E. Findley, R. R. Butler, F. Robertson Dodd, A. P. Telford.

Tompsett, Sidney Lionel, B.Sc. (Lond.), Ph.D. (Glas.), D.Sc. (Glas.), F.I.C. British. 92, Dorian Drive, Clarkston, Renfrewshire. Biochemist; Royal Infirmary, Glasgow, Lecturer in Biochemical Analysis; Royal Technical College, Glasgow.
Signed by : T. S. Stevens, Andrew Kent, Charles Buchanan.

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Signed by : F. Bell, J. E. Wynfield Rhodes, G. N. Burkhardt.

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Signed by : Horatio Ballantyne, F. Montague Dyke, A. D. Scott.

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Signed by : E. J. Bond, Harold Lowe, A. McGookin.

Ward, Robert, B.Sc. (Lond.), F.I.C. British. Hillside, Stainton, Middlesbrough, N. Yorks. Chemist—Heavy Chemical Industry.
Signed by : M. P. Applebey, Michael H. M. Arnold, J. G. M. Bremner, Elizabeth D. Johnson.

Watson, Charles, B.Sc. (Glas.), A.R.T.C., A.I.C. British. Chemist.
Signed by : Henry G. A. Anderson, A. B. Crawford, I. Vance Hopper.

Webster, Charles Thomas, A.I.C. British. 127, Penrose Avenue, Carpenders Park, Watford, Herts. Chemist, Building Research Station.
Signed by : James C. Philip, H. J. T. Ellingham, A. A. Eldridge.

Welton, Winifred E., B.Sc. (Lond.), A.I.C. British. 44, Mount Nod Road, Streatham, S.W. 16. Chemist.
Signed by : Harold Raistrick, E. B. Anderson, R. Leslie Collett.

Wharton, Edward, F.I.C. British. Rosemount, 39, Station Road, Brimington, Chesterfield. Chief Chemist to a Coal & Iron Co.
Signed by : C. H. Desch, F. P. Dunn, R. Leslie Collett.

***Whittingham, Gordon,** B.A.Hons. (Cantab.). British. "Sunrays," Ambergate, Derbyshire. Research Student at Cambridge.
Signed by : F. S. Dainton, C. H. Bamford, J. H. Schulman.

Wilkinson, Rowland, M.Sc., Ph.D. (Manc.), A.I.C. British. Langley Road, Watford. Research Chemist.
Signed by : G. N. Burkhardt, A. E. Gillam, Colin Campbell.

Wood, Baruch Harold, B.Sc.Hons. (Wales), M.Sc. (Birm.). British. 146, Rectory Road, Sutton Coldfield, nr. Birmingham. Research Chemist.
Signed by : E. G. V. Percival, M. Stacey, C. S. Kipping, F. Smith.

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Signed by : W. B. Price, M. N. Leathwood, R. A. Sutton.

Yeates, Reginald Leslie, M.Sc. (Lond.), A.I.C. English. 1143, Warwick Road, Solihull, Birmingham. Production Manager, Synthetic Resin and Phthalic Anhydrial plants.
Signed by : J. W. Cook, E. de Barry Barnett, Henry J. S. Sand.

Young, Charles Harold, B.Sc. (Lond.). British. 29, Winchendon Road, Teddington, Middlesex. Research Chemist.
Signed by : D. R. Duncan, J. O. Cutter, S. H. Bell.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD:

Hanmer, Hiram Rupert, B.S. (Vermont). American. The American Tobacco Company, P.O. Box 4178, Richmond, Virgina, U.S.A. Director of Research.
Signed by : E. C. L. Miller, Foster Dee Snell.

McHaffie, Ivan Roy, B.A., M.Sc. (Manitoba), D.Sc. (Lond.). Canadian. c/o Canadian Industries, Ltd., P.O. Box 10, Montreal, P.Q., Canada. Manager, Research & Development Dept., Canadian Industries, Ltd.
Signed by : C. H. Robinson, E. W. R. Steacie.

Singh, Raghbir, B.Sc. (Punjab), M.Sc. (Lucknow). Indian (Sikh). The Patiala Cement Co., Ltd., Surajpur, N.W.Rly., Punjab, India. Assistant Chemist to The Associated Cement Companies, Ltd., India.
Signed by : J. N. Ray.

Wolf, Arnold, Ph.D. (Frankfurt). German. 29, Stafford Road, Ellesmere Park, Eccles, Lancs. Technical Director, Victor Wolf, Ltd., Manchester II.
Signed by : Thos. H. Durrans.

* Reduced Annual Subscriptions.

PAPERS RECEIVED

List of papers received between April 24th and May 25th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" The polarimetric study of intramolecular rearrangement in inactive substances. Part VIII. α- and β-Furfuraldoximes and some others." By T. S. Patterson, Charles Buchanan, and Alexander J. Summers.

" Acridine syntheses and reactions. Part II. Synthesis of proflavine from *m*-phenylenediamine and its derivatives (*continued*)." By A. Albert.

" The action of organo-alkali compounds on benzonitrile." By R. M. Anker and A. H. Cook.

" Sapogenins. Part XI. Further evidence on the constitution of quillaic and oleanolic acids." By P. Bilham and G. A. R. Kon.

" Optically active tetrahydrofurfuryl-2-carbinol." By M. P. Balfe, M. Irwin, and J. Kenyon.

" The alkaloids of Bulgarian belladonna root." By H. King and L. L. Ware.

" α-Aceto-*N*-methylpyrrolidine." By H. King.

" Furanose and pyranose derivatives of glucurone." By L. N. Owen, S. Peat, and (in part) W. J. G. Jones.

" Some acyl derivatives of iodine." By J. W. H. Oldham and A. R. Ubbelohde.

" Action of alkaline-earth chlorides on emulsions stabilised by sodium oleate." By A. H. Adams and A. R. Martin.

" *p*-Aldehydophenyltrimethylammonium salts and their condensation and decomposition products." By A. Zaki and W. Tadros.

" Triterpene resinols and related acids. Part XIII. Note on the bromination of α-amyranonyl benzoate and β-amyranonyl acetate." By D. E. Seymour and F. S. Spring.

" 2 : 3-Methylenedioxchrysene." By L. H. Briggs and J. M. Wilson.

" Benz*cyclo*octatetraenes. Part I." By W. S. Rapson and R. G. Shuttleworth.

" The conversion of 6-chloro-3-benzoyloxy-Δ^4-cholestene into $\Delta^{4:6}$-cholestadienyl benzoate." By F. S. Spring and G. Swain.

" The preparation of diarylmaleonitriles." By A. H. Cook, J. Downer, and B. Hornung.

" Derivatives of monosilane. Part II. The iodo-compounds." By H. J. Emeléus, A. G. Maddock, and C. Reid.

" Addition of βγ-unsaturated alcohols to the active methylene group. Part III. Scope and mechanism of the reaction." By M. F. Carroll.

"Experiments on the synthesis of substances related to the sterols. Part XXVIII." By Sir ROBERT ROBINSON and S. N. SLATER.

"The absorption spectra of the phenylpyridines and pyridyldiphenyls." By A. E. GILLAM, D. H. HEY, and A. LAMBERT.

"Studies in the sterol group. Part XLIII. The unsaponifiable portion of the acetone extract of plantation rubber." By I. M. HEILBRON, E. R. H. JONES, K. C. ROBERTS, and P. A. WILKINSON.

"Derivatives of naphthoylbenzoic acid and naphthylphenylmethane-2-carboxylic acid." By G. M. BADGER.

"Bond lengths and resonance in the *cis*-azobenzene molecule." By G. C. HAMPSON and J. MONTEATH ROBERTSON.

"The halogenation of phenolic ethers and anilides. Part XI. Substituted benzyl ethers of some alkylphenols." By BRYNMOR JONES.

"The internal phase and emulsifier as factors determining the viscosity of oil-in-water emulsions." By B. A. TOMS.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

BERNTHSEN, A. A textbook of organic chemistry. Revised by J. J. SUDBOROUGH. New edition. London 1941. pp. xii + 1371. 17*s.* 6*d.* net. (*Recd.* 15/5/41.) From the Publishers: Messrs. Blackie & Son.

ORGANIC SYNTHESES. Vol. XVIII. New York 1938. pp. vi + 103. (*For circulation.*) From Dr. H. Toms.

II. *By Purchase.*

CONN, H. J. Biological stains. 4th edition. Geneva, N.Y. 1940. pp. 308. ill. $3.40. (*Recd.* 28/4/41.)

NATIONAL FIRE PROTECTION ASSOCIATION. National fire codes for the prevention of dust explosions. Boston, Mass. 1940. pp. 135. ill. 75*c.* (*Recd.* 25/4/41.)

SEIDELL, ATHERTON. Solubilities of inorganic and metal organic compounds. 3rd edition. Vol. I. New York 1940. pp. iv + 1698. (*Reference.*) $12.

TECHNOLOGY DEPT.

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PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT BRISTOL, JUNE 5th.

A Joint Meeting of the Chemical Society with the Local Sections of the Society of Chemical Industry and of the Institute of Chemistry was held in the Department of Chemistry, The University, Bristol, on June 5th, when a lecture-demonstration on "Liquid Crystals" was given by Professor G. M. Bennett. The chair was taken by Dr. E. B. Maxted; and a vote of thanks to the lecturer, proposed and seconded, respectively, by Professor E. L. Hirst and Dr. F. W. Rixon, was carried unanimously.

LECTURE AT LIVERPOOL, MAY 1st.

On Thursday, May 1st, 1941, Dr. F. J. Brislee delivered a lecture before the Liverpool Section of the Chemical Society and the Liverpool University Chemical Society at the University.

Dr. Brislee defined research as "work done for the discovery of truth and extension of knowledge, that is fundamentals," and said that the term was too frequently used to cover less dignified work. As an example of a fundamental industrial research, Dr. Brislee described the methods of wire-drawing by passing heated copper bars through three series of rollers, resulting in $\frac{1}{4}$ inch copper rod, which is then drawn through dies to the desired diameter of the wire. Trouble arose through breaks in the wire during drawing, and, on examination, these breaks were found to include a metal shown to be iron or steel by its emission spectrum. The lecturer emphasised the great value of the spectrograph in industrial investigations.

The source of these steel fragments was finally traced to the "roughing" or first rollers, since traces of molybdenum were present. The fault was reduced but not eliminated by working the rollers less severely and cleaning their surfaces frequently.

Dr. Brislee then turned to the problem of suitable dielectrics, pointing out that its attack by ozone, oil, heat, etc., rendered rubber a faulty dielectric for cable manufacture. He described and showed sections of paper-insulated, oil-filled, lead-covered cables capable of being used up to very high voltages. The lecturer stressed the very large amount of research which the development of this method of insulation has entailed.

He next turned to the resins formed by the polymerisation of organic compounds. The earlier plastics had good dielectric but inferior mechanical properties. The more modern substances such as polyethylene (molecular weight 15,000—30,000) appear to be more suitable.

An interesting problem connected with polymerisation arose when an experimental cable, after two years' use, was found to contain solid matter in place of the original thin oil. This solid closely resembled a brown stain often noticed in old condensers but never previously obtained in quantity. After solvent treatment of the brownish solid a pale yellow powder remained, which, after many unsuccessful attempts at combustion, proved to be a hydrocarbon $(CH_2)_n$. The molecular weight could not be ascertained by the Staudinger viscometer method, since the polymer was insoluble in all solvents. Its *X*-ray spectrum revealed its analogy to polyethylene, thus confirming the deduction made from combustion results.

Films of oil spread on a glass surface were exposed to electrical discharges *in vacuo*, when a white, solid material appeared, which rapidly turned yellow or brown with increase of temperature, and was shown to be identical with the solid obtained from the cable. Since this material had not failed in the cable, it evidently possessed good electrical properties, but it has not yet been plasticised.

Polymerisation affords the most fertile field for investigation.

Minutes of a

SCIENTIFIC MEETING

held in the Large Lecture Room, Department of Biochemistry, The University Museum, Oxford, on Thursday, May 30th, 1941, at 2.30 p.m.

The President, Professor J. C. PHILIP, O.B.E., D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of May 15th, 1941, were read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: Clifford Brown, S. G. Waley, D. V. Crawford, Peter H. Given, G. G. Freeman, S. W. Hawkins, R. H. Harradence, Alec B. Jansen, and Gertrude M. Robinson.

SEVENTH PEDLER LECTURE.

After a brief introduction, the PRESIDENT called on Professor W. N. Haworth to deliver his Pedler Lecture, entitled "Recent Developments in the Chemistry of Carbohydrates."

A vote of thanks to the Lecturer, proposed by Sir Robert Robinson, seconded by Professor R. A. Peters, and supported by the President, was carried with acclamation.

The PRESIDENT expressed the thanks of the Society to the University Authorities and to Professor Peters for the use of the Lecture Room.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, June 19th, at 4.15 p.m.

The President, Professor J. C. PHILIP, O.B.E., D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of May 30th, 1941, were read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: Peter V. Danckwerts, Bernard Beilenson, Cyril A. Kloss, H. S. Peiser, Neil Palmer, R. L. Edwards, James E. Page, R. H. M. Savage, R. J. Meakins, E. M. Pam, A. Lambert, H. Coates, E. S. F. Rogans, K. J. Hayden, E. Lester Smith, P. Alexander, H. J. Strausz, G. D. Gillies, J. D. Kidd, C. E. Stickings, and R. W. Sutton.

TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Professor A. R. Todd to deliver his Tilden Lecture, entitled "Vitamins of the B Group."

A vote of thanks to the Lecturer, proposed by Dr. Francis H. Carr, seconded by Professor I. M. Heilbron, and supported by the President, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

CONGRATULATIONS.

The congratulations of the Society have been conveyed to Mr. Oliver Trigger, who completed 60 years of Fellowship on June 16th, and to Dr. J. F. Tocher, who completed 50 years of Fellowship on May 7th.

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Matthew Hunter	1885	May 18th
Charles W. Hyland	1938	January 16th
Sir William F. Wyley	1884	August 11th, 1940

CONTRIBUTIONS.

The thanks of the Council have been conveyed to Sir David Rivett and Mr. F. C. Smith for contributions to the Publications Fund.

TRAVELLING EXPENSES OF MEMBERS OF COUNCIL.

The question of making payments towards the travelling expenses of Members of Council attending Council Meetings has frequently been under consideration, but hitherto the Council have not felt justified in allocating any part of the Funds of the Society to such a purpose.

In view of the fact, however, that it is the practice of the other Chartered Chemical Bodies to meet such expenses the Council felt it necessary to reconsider the question and they have decided that in future every Member of Council, if living more than 50 miles from the place of the Council Meeting, shall be entitled to claim an amount not exceeding the third class return fare from his place of residence to the place of the Council Meeting. If he is unable to complete the double journey in one day, he shall also be entitled to make an additional claim up to an amount not exceeding the difference between the third and first class return fares from his place of residence to the place of the Council Meeting.

LIBRARY.

The Library will be entirely closed for cleaning and stocktaking from Monday, August 4th, to Saturday, August 9th, inclusive.

The usual recall of books will, however, not take place.

FELLOWSHIP.

5 Fellows have been reinstated, the resignations of 18 have been accepted, the names of 4 have been removed from the List of Fellows under the action of Bye-Law 15, and the following 171 candidates were elected Fellows on June 19th:

Gordon Henry Abbott.
John Pratt Allchin.
Theodore Edward Archard.
Edgar Arundel.
Frank Baldry.
Robert Roy Baldwin.
Michael Barash.
Harold Frederick Barke.
George Barnett.
Lionel Fitzgerald Barron.
William Bennett.
Edwin John Bills.
William Walter Bills.
Albert Edward Bishop.
Sydney Roskruge Bowden.
Arnold Breare.
Charles Isaac Brodrick.
William Stanger Bryan.
Frederick William Bush.
Samuel Walter Butterworth.
Landon Francis Byrne.
John Reid Campbell.
Basil Houghton Chorley.
George Charles Harry Clark.
Abraham Colin-Russ.
Walter Charles Coppins.
Joe Harrop Concill.
Robert Craig.
Arthur John Crockatt.
Frank Cropper.
Eric Arthur Crouch Crouch.
Charles Dagnall.
David Richard Aylmer Davies.
Philip Morey Davies.
Joan Davis.
Stephen Barton Davis.
William Douglas Dick.
Allan Maclean Drummond.

James Bothwell Duncan.
Edward Foster Eaton.
Homi Eduljee Eduljee.
Gerald Harry Edwards.
Harry Leonard Evans.
John Ferguson.
Geoffrey Garratt Fisher.
Thomas Fitzpatrick.
Walter Percy Ford.
Hugh Cameron Freeman.
Charles Hubert Francis Fuller.
Derrick Fysh.
Leonard Gowen Gabriel.
Samuel Gabriel.
Alban James Gait.
Donald Clarence Garratt.
George Denholm Gillies.
Wilfred Gillison.
Joseph Gordon.
Arnold Trevor Green.
Raymond George Green.
John Goodland Gregory.
Harry Noel Griffiths.
Norman Reginald Hall.
Cyril Garforth Hampson.
Hiram Rupert Hanmer.
Andrew Thomas Stewart Hare.
Thomas Harrington.
John Holley Harwood.
Henry William John Hathaway.
Lionel Alan Walter Hayward.
Robert Heap.
Horace James Hegan.
Vernon Frederick Frank Henley.
Hector Whittingham Hibbott.
Walter George Hiscock.
Leslie Ernest Hockin.
Wilfrid Henry Hogg.
Sidney John Hopkins.
Eric Hoult.
Bertram James Frank Hudson.
Anthony Humphreys.
David Leonard Charles Jackson.
Ernest Norman Johnson.
Victor George Jolly.
Leslie Jones.
John Arthur Kemp.
Robert Leopold Kenny.
James Kenyon.
Alfred Joseph Kieran.
Nathaniel Laird.
William Lewcock.
Philip Stacey Lewis.
Arthur Benjamin Cecil Licence.
Cyril Lipman.
Henry Lorimer.
John Love.
John Wilfred Lowry.
Thomas James Rew Macara.
Ada Francis McColl.
Ian Ewart Macdonald.
Ivan Roy McHaffie.
Angus McLean.
Thomas McLean.
Harry Douglas MacMurray.
Alan Mulock Maiden.
John Manning.
Melville Lear Meara.
Frederick Fenby Miskin.
Benjamin Eric Nicholson.
Isaac Norvick.
Geoffrey Ogden.
Harold Oliver.
Edryd Gwylfa Parry.
Douglas George Pirie.
Raymond John Michael Pollitt.
Percival Robert Charles Pyle.
Joseph Race.
Charles Edward Randolph.
Hugh Norman Read.
Wilfrid Harry Read.
Cyril Aubrey Redfarn.
George Gary Richardson.
John Samuel Risbey.
David Ritchie.
Edwin Cecil Roberson.
Arthur Loten Roberts.
Stewart McFeat Robertson.
Sydney John Rogers.
John Joseph Scanlan.
Dan Scott.
Frank Sealey.
William Gawan Sewell.
Edwin Holroyd Sharples.
Raghbir Singh.
Arthur Henry Soane.
Percy Frederick Combe Sowter.
Harold Edgar Stagg.
Frank Stansfield.
Frederick George William Stickland.
Thomas Stones.
Richard Whitefield Stott.
John Kenneth Stuart.
Thomas Stutchbury.
Theodore Morris Sugden.
Arthur James Suthers.
Basil Ward Swanson.
John Langhorne Sweeten.
James Sword.
John Leslie Taylor.
Richard Spenser Thomas.
Gordon Vallins Elliot Thompson.
Hubert Morris Thompson.
Philip Frederick Timson.
James Todd.
Sidney Lionel Tompsett.
George Tracey.
Frank Turner.
George William Usherwood.
William Basil Walker.
William Bernard Walker.
Robert Ward.
Charles Watson.
Charles Thomas Webster.
Winifred E. Welton.
Edward Wharton.
Gordon Whittingham.
Rowland Wilkinson.
Arnold Wolf.
Baruch Harold Wood.
Leslie Woods.
Reginald Leslie Yeates.
Charles Harold Young.

COMMITTEES.

The Council have conveyed their thanks to the retiring members of Committees for the services they have rendered to the Society.

The following Committees have been appointed for 1941–1942:

Finance and General Purposes Committee.

A. E. Dunstan, H. J. T. Ellingham, G. I. Finch, I. M. Heilbron, C. N. Hinshelwood, R. G. W. Norrish, Sir Robert Pickard, R. E. Slade, together with the Officers, the Chairman of the Publication Committee and the representative of the Joint Library Committee on the Council of the Chemical Society. The President as Chairman, Treasurer as Vice-Chairman, and the General Secretary as Secretary.

Publication Committee.

S. Sugden as Chairman, A. J. Allmand, W. Baker, R. P. Bell, F. P. Bowden, H. V. A. Briscoe, F. Challenger, G. R. Clemo, W. E. Garner, C. F. Goodeve, J. M. Gulland, G. S. Hartley, R. D. Haworth, I. M. Heilbron, T. A. Henry, D. H. Hey, E. D. Hughes, H. W. Melville, W. H. Mills, R. A. Morton, J. R. Partington, A. Robertson, J. M. Robertson, R. Robison, N. V. Sidgwick, H. Terrey, A. R. Todd, together with the Officers, and the Editor as Secretary.

Research Fund Committee.

J. W. Cook, W. E. Garner, I. M. Heilbron, C. N. Hinshelwood, H. McCombie, J. Kenyon, Sir Robert Robinson, J. L. Simonsen, S. Sugden, together with the Officers. The President as Chairman, and the General Secretary as Secretary.

Publications Exchange Committee.

A. C. G. Egerton, H. J. Emeléus, T. A. Henry, E. E. Turner, with T. A. Henry (ex-officio representative of the Joint Library Committee on the Council) and the Officers, with the Librarian as Secretary.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, 14th July. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Allan, William Taylor. Certificates of the Royal Glasgow Technical College in Chemistry, Metallurgy, and allied subjects. British. Calderside House, Shotts. Chief Chemist.
Signed by: Francis G. Cousins, R. T. Thomson, J. A. Macnair.

Allen, Ronald Lewis, B.Sc.Hons. (Lond.), A.I.C. British. 116, Fabian Crescent, Shirley, nr. Birmingham. Captain, R.A.O.C.
Signed by: J. Cooper Duff, J. Newton Friend, R. H. Vallance.

Aps, John Edmund, F.I.C. British. 47, Woodland Way, Petts Wood. Chief Chemist to the Union Cold Storage Co., Ltd.
Signed by: J. J. Fox, R. Leslie Collett, B. A. Ellis.

Backshell, Arthur Price, A.I.C. British. 12, The Oval, Garden Village, Hull, Process Superintendent.
Signed by: M. A. T. Rogers, E. Isaacs, H. Langwell.

Barkla, Donald Greatbatch, B.Sc. (L'pool). British. Mithian, Aintree Lane, Aintree, Liverpool, 9. Resident Chemist and Chief of Chemical Laboratories.
Signed by: F. Robertson Dodd, Alfred P. Telford, James Smith.

Binns, Caleb, B.Sc. (Lond.), A.I.C. British. Park Lane, Greenfield, Nr. Oldham. Chemist to a Paper Mill.
Signed by: J. J. Fox, Francis H. Carr, R. Leslie Collett.

Blakeley, Thomas Hedley, B.Sc., Ph.D. (Leeds), A.I.C. British. Grendon, Moorgate, Rotherham. Assistant to Works Manager of Chemical Works.
Signed by : G. A. Hebden, H. J. Hodsman, D. T. A. Townend.

Blomfield, Joan Elizabeth, M.A., B.Litt. (Oxon.). British. Somerville College, Oxford. Acting Librarian.
Signed by : F. M. Brewer, Rita H. Harradence, D. M. Hodgkin.

Bradford, Enid Agnes Margaret, B.Sc. (Lond.), A.I.C. British. 34, St. Michael's Crescent, Pinner. Research Chemist to The Marmite Food Extract Company, Ltd.
Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.

Bullough, William, B.Sc.Hons. (Lond.), A.I.C. British. 82, Newton Rd., Lowton-St.-Mary's, Warrington. Analytical Chemist.
Signed by : Ernest B. Naylor, T. J. Morrison, A. Cooksey.

Carter, William James, A.I.C. British. 18, Branscombe Road, Stoke Bishop, Bristol, 9. Research Chemist.
Signed by : C. E. H. Bawn, E. B. Maxted, G. M. Bennett, J. K. N. Jones.

Chambers, William Thomas, Ph.D. (Birm.), A.I.C. British. 74, Tewin Road, Welwyn Garden City. Analyst to a Research Association.
Signed by : E. H. Farmer, F. Smith, M. Stacey, K. C. Roberts, Stanley Peat.

Chapman, Kenneth Thomas, B.Sc. (Lond.), A.I.C. British. Ardeen, 35, Higher Road, Hunts Cross, nr. Liverpool. Technical Manager of a firm of Manufacturing Chemists.
Signed by : Harold W. Jones, Thomas Backhouse, Francis W. Kay.

Clifford, Joseph, A.R.C.Sc.I., F.I.C. English. 5, Arlington Avenue, South Shore, Blackpool. Analytical and Consulting Chemist.
Signed by : Charles S. Gibson, W. B. Pollard, R. Leslie Collett.

Crosse, Frederick George, F.I.C. English. 8, Ederline Avenue, Norbury, S.W. 16. Assistant Editor, The Bureau of Chemical Abstracts.
Signed by : James C. Philip, A. A. Eldridge, G. A. R. Kon.

Curran, Michael Joseph, B.Sc. (Lond.), A.I.C., British. 21, Pound Park Road, Charlton, S.E. 7. Works Chemist.
Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.

Dee, Thomas Pride, B.Sc.Hons. (Lond.), F.I.C., A.M.I.Chem.E. British. Bon Accord, Broughton, Brigg. Chemist.
Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.

Dow, William Thornton, A.H.W.C., A.I.C. British. 31, Mount Vernon Road, Liberton, Edinburgh. Advisory Research Chemist (Bakery products).
Signed by : James Sandilands, Hugh B. Nisbet, Robert G. M. Dakers.

Edmondson, Albert Norman, A.I.C. British. 7, Hala Grove, Scotforth, Lancaster. Research Chemist.
Signed by : Ernest Taylor, R. Leslie Collett, J. J. Fox.

Farina, Philip Edward Lodovico, B.Sc. (Lond.), A.I.C. British. 168, Algernon Road, Lewisham, S.E. 13. Works Analyst.
Signed by : E. B. Evans, N. F. Goodway, R. A. E. Galley.

Ford, Alexander Langridge, B.Sc. (Lond.). British. 33, Elmwood Ave., Hoole, Chester. Chemist to an Oil Company.
Signed by : J. H. Putman, J. R. Partington, E. D. Griffiths.

Foster, John, B.Sc.Hons. (Lond.), Diploma in Chem. Eng., A.I.C., F. Canadian Inst. Chem. British. Grand Falls, Newfoundland. Sulphite Superintendent, Anglo Newfoundland Development Co., Ltd.
Signed by : R. Leslie Collett, J. J. Fox, B. A. Ellis.

Gray, William, B.Sc.Hons. (Glas.). British. 13, Patrick Avenue, Stevenston. Works Chemist.
Signed by : T. S. Stevens, F. R. Storrie, Charles Buchanan.

Harding, Gilbert, F.I.C., A.M.C.T. British. 15, Moseley Avenue, Coventry. Works Chemist.
Signed by : A. R. Runeckles, W. H. Glover, H. Paul.

Harris, Clifford, A.I.C. British. 32, Park Road, Keynsham, nr. Bristol. Research Chemist.
Signed by : Arthur Marsden, J. Kenyon N. Jones, L. A. Wiseman.

Hillman, Herbert Colston, B.Sc. (Bristol), A.I.C. British. Shilla, Briar Way, Guildford. Chemist, Messrs. Cow & Gate, Ltd.
Signed by : F. Francis, N. Stuart, T. Malkin.

Hutchison, George Lewis, B.Sc. (Lond.), F.I.C. British. 3, Cwmdonkin Terrace, Uplands, Swansea. Research Chemist.
Signed by : Robert Robertson, F. G. Willson, J. E. Coates, A. Brewin.

Kaye, Maurice Arthur George, J.M.B. Higher School Certificate in Mathematics, Physics and Chemistry. British. 17, Raleigh Road, Stoke, Coventry. Assistant Chemist in Research Work.
Signed by : Walter H. Glover, H. Paul, H. J. Hegan.

Kerr, Douglas Graham, B.Sc.Hons. (Edin.), A.I.C. British. 16, Hill Street, Edinburgh, 2. Technical Assistant.
Signed by : James Kendall, Neil Campbell, T. R. Bolam.

King, Leslie Walter, A.I.C. British. 1, Warren Road, Wanstead, E. 11. Manufacturing Chemist.
Signed by : J. J. Fox, B. A. Ellis, R. Leslie Collett.

Kramers, William Julian, B.A., B.Sc. (Oxon.). British. 53, Lancaster Grove, N.W. 3. Advanced Student.
Signed by : D. L. Chapman, J. C. Smith, L. A. Stocken.

Lockwood, Arthur Ronald, B.Sc.Hons. (B'ham.), A.I.C. British. 31, Founerean Road, Ipswich. Chemist to a Chemical Works.
Signed by : R. L. Edwards, R. H. Hopkins, Stanley Peat.

Louden, Charles Robertson, B.Sc. (Glas.), F.I.C. British. 44, de Villiers Avenue, Gt. Crosby, Liverpool, 23. Chemist.
Signed by : W. Ramsay Sibbald, F. Robertson Dodd, Alfred P. Telford.

McDougall, Edward Ian, B.Sc. (Lond.), A.I.C. British. c/o Institute of Animal Pathology, Milton Road, Cambridge. Research Chemist.
Signed by : H. D. K. Drew, D. C. Jones, W. H. Patterson.

Macfarlane, Harold Colin, A.I.C., A.R.T.C. (Salford), British. 142, Swinton Park Road, Pendleton, Salford, 6. Analytical Chemist.
Signed by : W. T. H. Williamson, G. N. Burkhardt, Alex. R. Todd.

Merrill, Ian Nuttall, A.M.I.Chem.E. British. 16, King Ecgbert Road, Totley Rise, Sheffield. Managing Director.
Signed by : Kenneth W. Francombe, Arthur W. Chapman, W. D. Scouller.

Miller, John Garnet Frederick, B.Sc., Ph.D. (Lond.), A.I.C. British. 58, Parkstone Road, Poole. Temporary Chemist.
Signed by : T. C. J. Ovenston, Frank W. Stoyle, R. C. Pitkethly.

Milne, James, B.Sc. (Glas.), A.R.T.C., A.I.C. British. 11, Irongray Street, Glasgow, E. 1. Chemist.
Signed by : F. J. Wilson, A. B. Crawford, G. D. Muir.

Minors, Charles Arthur, B.Sc. (Lond.). British. 73, Marchmont Road, Wallington. Chemical Engineer.
Signed by : Henry Terrey, E. D. Hughes, C. K. Ingold.

Monk, Harold Edward, B.Sc. (L'pool.), F.I.C. British. County Laboratory, County Buildings, Worcester. Public Analyst.
Signed by : Cecil Cooke Duncan, J. J. Fox, R. Leslie Collett.

Munro, Reginald James, B.Sc., A.R.T.C. (Glas.), F.I.C. British. 2, Wellington Road, Bebington. Research Chemist.
Signed by : R. F. Hunter, A. D. Scott, W. J. G. Jones.

Murray, Wilfred, A.M.C.T., A.I.C. British. c/o Walker, Ryecroft Farm, Croxteth Hall Lane, Liverpool, 11. Analytical and Research Chemist.
Signed by : J. Haslam, James S. Merry, R. Leslie Collett.

Olliver, Mamie, M.Sc. (Lond.), F.I.C. British. 22, Leys Avenue, Cambridge. Assistant Chief Chemist.
Signed by : W. H. Mills, F. S. Dainton, R. G. W. Norrish.

Perkins, Frederick, B.Sc. (Lond.), A.I.C. English. 2, Wayside Avenue, Harrogate. Works Chemist.
Signed by : T. A. Cullum, J. J. Fox, R. Leslie Collett.

Ragg, Leonard William, Pharmaceutical Chemist, University of London, A.I.C. British. 7, New Close, Knebworth. Analytical Chemist to a firm of Chemical Manufacturers.
Signed by : H. M. Perry, T. F. West, R. Leslie Collett.

Raine, Thomas, B.Met., Ph.D. (Sheffield), A.I.C. British. 7, Mayfair Drive, Sale, Manchester. Metallurgical Physicist.
Signed by : G. M. Bennett, R. Leslie Collett, J. J. Fox.

Rees, Walter James, D.Sc.Tech. (Sheffield), F.I.C. British. 47, Stumperlowe Crescent Road, Fulwood, Sheffield, 10. Lecturer in Refractory Materials, University of Sheffield.
Signed by : J. I. O. Masson, R. D. Haworth, Arthur W. Chapman.

Reidy, John William, A.I.C., A.T.I. British. 30, Woodstock Drive, Worsley, Manchester. District Manager and Technical Representative to a firm of Chemical Manufacturers.
Signed by : John K. Wood, A. Whitehead, J. E. Myers.

Roberts, Charles Fletcher, A.M.C.T., F.I.C. British. 23, Lovely Lane, Warrington. Research Chemist.
Signed by : T. P. Hilditch, R. A. Morton, A. E. Findley.

Roberts, Muriel, B.Sc. (L'pool.), F.I.C. British. 1, Sefton Drive, Liverpool, 8. Public Analyst.
Signed by : W. Gordon Carey, E. B. Hughes, T. P. Hilditch, John Evans, S. E. Melling.

Salkield, Leonard Unthank, Assoc.R.S.M., Assoc.M.Inst.Chem.E. British. Port Tennant, Swansea. Superintendent of Works.
Signed by : G. E. Coates, J. E. Coates, E. E. Ayling, L. E. Hinkel.

Sergeant, Stanley Victor, B.Sc. (Lond.), A.I.C. British. Heath Holme, Heathlands Road, Little Sutton, Wirral. Works Chemist.
Signed by : H. Ainsworth Harrison, E. de Barry Barnett, R. Leslie Collett.

Sewell, Eric James, Higher School Certificate in Chemistry, Physics, and Biology. British. 8, Elmwood Avenue, Coundon, Coventry. Assistant Research Chemist.
Signed by : H. Paul, Walter H. Glover, H. J. Hegan.

Sleigh, Sydney William, A.I.C. British. Woodlands, Mancetter, Atherstone. Chemist to a Colliery Company.
Signed by : J. Newton Friend, J. Cooper Duff, R. H. Vallance.

Stickland, Oliver Ward, B.Sc. (Lond. and Bristol), F.I.C. British. Tanok, West Kilbride. Technical Chemist.
Signed by : J. Weir, A. G. White, J. D. Miles.

Stokoe, William Norman, Ph.D., B.Sc. (Lond.), F.I.C., F.R.S.E. British. 8, Lobden Road, Edinburgh, 9. Technical Director.
Signed by : James Sandilands, R. G. M. Dakers, Hugh B. Nisbet.

Topp, Norman Eric, Ph.D. (Lond.). British. Harpenden, Herts. Research Assistant.
Signed by : J. Kenyon, M. P. Balfe, R. Faraday Innes.

Urie, Alexander, B.Sc., Ph.D. (Glas.), A.R.T.C., A.I.C. British. 30, Jedburgh Avenue, Rutherglen, Glasgow. Analytical and Research Chemist.
Signed by : F. J. Wilson, A. B. Crawford, E. B. Hughes, J. J. Fox.

Warner, Kenneth Sidney, A.I.C. British. 50, Arundel Avenue, Morden. Technical Chemist.
Signed by : John T. Stock, E. de Barry Barnett, R. Leslie Collett.

Wright, James Macer, B.Sc.Hons. (Lond.), Student Member of Institute of Chemistry. British. 23, Hever Road, Edenbridge. Clerk, M.W.B.
Signed by : F. J. Llewellyn, D. J. G. Ives, F. Barrow, Stuart M. Phillips.

Yulll, John Lewis, B.Sc. (Lond.), Member of Biochemical Society (since 1932), Soc. Chem. Ind. (since 1919). British. 26, Hawthorn Terrace, New Earswick, York. Chief Chemist to a firm of Chemical Manufacturers.

Signed by : Harold B. Brown, B. G. McLellan, G. M. Bennett.

PAPERS RECEIVED

List of papers received between May 25th and June 19th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" Some hydrated nitrates of rare-earth elements." By J. K. MARSH.

" Oxalates of some rare-earth elements." By J. K. MARSH.

" Experiments on the synthesis of substances related to the sterols. Part XXX." By SIR ROBERT ROBINSON and F. WEYGAND.

" Experiments on the synthesis of substances related to the sterols. Part XXXI." By J. G. COOK and SIR ROBERT ROBINSON.

" 5-Ethinylruban-5-ol and related compounds." By G. R. CLEMO and E. HOGGARTH.

" Migration of acyl groups during hydrogenation of triglycerides." By D. ATHERTON and T. P. HILDITCH.

" Preparation of tetradeuteroethylene dibromide by direct union of dideuteroacetylene and deuterium bromide. A route to tetradeuteroethylene." By C. L. WILSON and A. W. WYLIE.

" Experiments on the synthesis of substances related to the sterols. Part XXXII." By SIR ROBERT ROBINSON and J. WILLENZ.

" Experiments on the synthesis of substances related to the sterols. Part XXXIII. Hydrogenation of some *cyclo*pentenonaphthalene derivatives." By L. C. BATEMAN and SIR ROBERT ROBINSON.

" Solanum alkaloids. Part III. The alkaloids from *Solanum auriculatum*." By R. CULFORD BELL, L. H. BRIGGS, and J. J. CARROLL.

" Solanum alkaloids. Part IV. The glycosidic moiety of the alkaloid from *Solanum auriculatum*." By L. H. BRIGGS and J. J. CARROLL.

" The cure of bumping in mercury glass diffusion pumps." By N. K. ADAM and E. W. BALSON.

" Dithio-β-*iso*indigo. Part II. Mechanism of its formation from phthalonitrile derivatives." By H. D. K. DREW and D. B. KELLY.

" Dithio-β-*iso*indigo. Part III. Some further members of the series." By H. D. K. DREW and D. B. KELLY.

" Experiments on the synthesis of substances related to the sterols. Part XXXIV. Some thiopyranaphenanthrene derivatives." By MISS N. A. MCGINNIS and SIR ROBERT ROBINSON.

" Monothiophthalimide and some derivatives of oxindole." By J. C. PORTER, SIR ROBERT ROBINSON, and (the late) M. WYLER.

" Note on the theory of aromatic substitutions and rearrangements with special reference to the benzidine change." By E. D. HUGHES and C. K. INGOLD.

" Experiments on the synthesis of substances related to the sterols. Part XXXV. Furfurylideneacetone as a reagent for the extension of ring systems." By L. E. KING and SIR ROBERT ROBINSON.

" An aspect of the interfacial adsorption process in oil-in-water emulsions." By B. A. TOMS.

" Organic sulphur compounds. Part XXVII. On the relation between the constitution of thio-ethers and mercaptans and their sensitivity towards alkalis." By A. SCHÖNBERG and Y. ISKANDER.

" Studies in peroxidase action. Part III. The oxidation of mesidine." By N. B. CHAPMAN and B. C. SAUNDERS.

"Experiments on the synthesis of substances related to the sterols. Part XXXVI (Continuation of Part XXII)." By A. KOEBNER and SIR ROBERT ROBINSON.

"The synthesis of growth-inhibitory polycyclic compounds. Part III." By G. M. BADGER.

"The relative directive powers of the carboxylic and quaternary ammonium groups." By A. ZAKI and W. TADROS.

"A new general method for the preparation of *o*-hydroxyaldehydes from phenols and hexamethylenetetramine." By J. COOPER DUFF.

"The persulphate–iodide reaction. Part II. The critical increment, and the catalysed reaction in the presence of neutral salts." By W. J. HOWELLS.

"Experiments on the synthesis of substances related to the sterols. Part XXXVII. Derivatives of chrysene." By L. GOLBERG and SIR ROBERT ROBINSON.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS. Collected papers on the teaching of chemical engineering. New York 1940. pp. vi + 383. ill. [In mimeograph form.] (*Reference.*) $3.

CHEMICAL INDUSTRIES: a compilation of the data and information essential to the conduct of all process industries. Edited by D. M. NEWITT. London 1941. pp. 304 + lxxix. ill. (*Reference.*) 10*s.* net.

From the Publishers: Messrs. Leonard Hill.

JONES, OSMAN and JONES, T. W. Canning practice and control. 2nd edition. London 1941. pp. xiv + 311. ill. 32*s.* net. (*Recd.* 13/6/41.) From Mr. T. W. Jones.

II. *By purchase.*

ADVANCES IN ENZYMOLOGY and related subjects. Edited by F. F. NORD and C. H. WERKMAN. Vol. I. New York 1941. pp. x + 433. ill. (*Reference.*) $5.50.

BLUM, HAROLD FRANCIS. Photodynamic action and diseases caused by light. (American Chemical Society Monograph Series.) New York 1941. pp. xii + 309. ill. $6. (*Recd.* 19/6/41.)

HOGNESS, T. R., and JOHNSON, WARREN C. Ionic equilibrium as applied to qualitative analysis. New York 1941. pp. x + 306. ill. $2. (*Recd.* 19/6/41.)

LLEWELLYN, F. B. Electron-inertia effects. Cambridge 1941. pp. x + 104. ill. 7*s.* 6*d.* net. (*Recd.* 19/6/41.)

TWYMAN, F. The spectrochemical analysis of metals and alloys. London 1941. pp. viii + 355. ill. 21*s.* net. (*Recd.* 19/6/41.)

VINAL, GEORGE WOOD. Storage batteries. 3rd edition. New York 1940. pp. x + 464. ill. $5. (*Recd.* 19/6/41.)

WACHTEL, CURT. Chemical warfare. Brooklyn 1941. pp. x + 312. $4. (*Recd.* 19/6/41.)

III. *Pamphlets.*

BORAX CONSOLIDATED, LTD. Practical notes on the manufacture of leather. London 1937. pp. 74.

—— Boron in agriculture. London 1940. pp. 36. ill.

TECHNOLOGY DEPT.

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PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
James A. Pond	1890	June 8th, 1941.
Robert Robison, F.R.S.	1911	June 18th, 1941

FORTHCOMING LECTURES.

The Council are glad to announce that the Eighth Hugo Müller Lecture, entitled "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S., which was postponed from last November, will be given in London on October 16th, 1941; that Dr. W. H. Mills has accepted the invitation to give the Eighth Pedler Lecture in April 1942, and that Dr. H. J. Emeléus and Professor R. D. Haworth have accepted the invitation to give the Tilden Lectures during the forthcoming session.

PROVISION OF FINE CHEMICALS FOR WORK OF NATIONAL IMPORTANCE.

The Advisory Research Council of the Chemical Society has inaugurated a scheme to facilitate the supply of fine chemicals needed for work of national importance, but which are not available commercially.

The Sub-committee organising this work particularly desires to draw the attention of all users of fine chemicals to the existence of this scheme, in order that the greatest possible use may be made of the generous offers of help which have been received from numerous chemists in Universities, Technical Colleges and Schools, who have suitable laboratory facilities at their disposal.

The scheme, which works in close collaboration with the Association of British Chemical Manufacturers, is an attempt to use to the best possible advantage both the laboratory facilities and the skilled manpower in teaching institutions and other laboratories which may not at present be fully harnessed to the war effort.

Before a chemical can be accepted for preparation under this scheme, the Committee must be satisfied that the chemical is unobtainable from any British manufacturing firm and that it is required for urgent work of national importance within the British Empire. The scheme provides for the manufacture of approved items at basic charges which represent only the cost of raw material and such overheads as gas, electricity, etc. There is no charge for the chemist's services.

Enquiries from both individuals and firms for chemicals which might be produced under the scheme should be made to the General Secretary, Mr. S. E. Carr, The Chemical Society, Burlington House, Piccadilly, London, W. 1, from whom further details can be obtained.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, 18th August,* 1941. *Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Addingley, Charles Gordon, B.Sc. and Ph.D. (Leeds), A.I.C. British. Cleckheaton. Chief Chemist of Works.
Signed by : Alex. Findlay, R. Leslie Collett, J. J. Fox.

Atherton, Donald, B.Sc.Hons. and Ph.D. (L'pool), A.I.C. British. 46, Booker Avenue, Liverpool, 18. Research Chemist.
Signed by : R. A. Morton, T. P. Hilditch, M. L. Meara.

Babb, Alfred Thomas Symonds, B.Sc. (Lond.), A.I.C. British. 27, Chippenham Avenue, Monks Park, Wembley. Analytical and Research Chemist.
Signed by : Leslie H. Lampitt, H. S. Rooke, G. E. Forstner.

Beer, Charles Thomas, A.I.C. British. c/o Mrs. James, Glyncoed, Priory Street, Cardigan. Chemist.
Signed by : K. D. Errington, Robert Dodd, D. F. Runnicles.

Booton, Joseph, A.I.C., A.M.C.T. (Manc.). English. 13, Field Road, Firgrove, Rochdale. Paper Mill Chemist.
Signed by : J. Kenner, John K. Wood, R. E. Oldroyd, Edward L. Dawson.

Coake, Frank, F.I.C., Dip. Royal Tech. Coll. Salford. English. Runswick, Wood Walk, Wombwell. Manager of a Coking Company.
Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.

Cotton, Frank Harriss, M.Sc. (Lond.), A.I.C., A.I.R.I.Sc. British. Windyridge, 43, Cedar Avenue, East Barnet. Lecturer in Rubber Technology, The Northern Polytechnic.
Signed by : R. W. West, T. J. Drakeley, H. J. S. King.

Davidson, Alexander Linton, Ph.C., F.I.C. Scots. Suite 26, Valcartier Apts, 61, Cartier Street, Ottawa. Senior Dominion Analyst.
Signed by : E. W. R. Steacie, G. S. Whitby, C. H. Robinson.

Ferry, Norman, B.Sc.Hons. (Lond.), A.I.C. British. 12, South Drive, Chaddesden, nr. Derby. Chemist.
Signed by : W. J. R. Way, W. S. Patterson, R. J. Winterton.

Goddard, Reginald Edwin, B.Sc. (Lond.), A.R.C.S. British. 7, Weymouth Avenue, Ealing, W. 5. Research Assistant, Department of Physical and Inorganic Chemistry, Royal College of Science, London, S.W. 7.
Signed by : H. V. A. Briscoe, H. J. Emeléus, A. G. Maddock, G. R. Martin.

Greenwood, Harry Stanley, A.I.C., A.M.I.Chem.E. British. Holmoyd, 368, Bradley Road, Bradley, Huddersfield. Chemist and Director to a firm of Chemical Manufacturers.
Signed by : A. Whitehead, F. Farrington, Charles L. Crosland.

Greenwood, Herbert Donald, M.Sc. (Leeds), A.I.C., A.M.I.Chem.E. British. 19, Kidbrooke Park Road, Blackheath, S.E. 3. Chemist, South Metropolitan Gas Co.
Signed by : W. A. Damon, J. S. Carter, F. M. Potter.

Haigh, Arnold Schofield, B.Sc. and Ph.D. (Leeds). British. Norwood, Polmont Road, Lauriston. Works Chemist.
Signed by : R. J. Loveluck, E. J. Beckett, J. K. Thomson.

Hands, Charles Henry, 1st Final City Guilds Manufacture of Iron and Steel. Inter B.Sc. Standard, Metallurgy, Physics, Maths and Chemistry, B'ham Tech. Coll. British. 12a, Chestnut Court, Harrow Road, Sudbury. Chief Works Chemist.
Signed by : W. H. J. Vernon, R. Taylor, D. V. N. Hardy.

Harper, Clifford Stuchbery, B.Sc. (Lond.), A.I.C. British. Holmdale, 91, Fosse Way, Syston. Chemist.
Signed by : G. L. Hammond, Cecil L. Wilson, C. Whitworth.

Hartley, Wilfred, A.I.C. British. Belmont, Moorwell Road, Yaddlethorpe, Scunthorpe. Fuel Chemist.
Signed by : R. Leslie Collett, R. John Sudlow, Norman B. Biggs.

Hewis, Harold Wilton, B.Sc. (Lond.), A.I.C. British. Freeth Street, Birmingham, 16. Works Chemist.
Signed by : H. M. McLean, Garfield Thomas, G. H. Edwards.

Hutt, Harold Hamilton, A.I.C. English. 32, Hoodyear Road, Bromborough. Works Chemist.
Signed by : B. H. Chorley, H. Jasperson, C. Leslie Bibby.

Jones, Robert Owen, A.R.C.S., B.Sc. (Lond.), D.I.C., A.I.C. British. Rosslyn, 13, Skelwith Road, W. 6. Research and Analytical Chemist.
Signed by : Leslie H. Lampitt, H. S. Rooke, E. M. Jackson.

Littlejohn, Malcolm, M.A.Hons., B.Sc. and B.Sc.Eng. (Glas.), A.I.C. British. Works Manager.
Signed by : A. S. Russell, Andrew Henderson, James Roberts.

McLaren, George. British. 325, Borough High Street, S.E. 1. Chief Chemist.
Signed by : Claude L. Claremont, H. E. Cox, Thos. Macara.

Macleod, George Torquil, B.Sc.Hons. (Glas.), A.I.C. British. 694, Duke Street, Glasgow, E. 1. Managing Director of a firm of Chemical Manufacturers.
Signed by : F. Rumford, W. M. Cumming, A. B. Crawford.

Maddison, Lionel, B.Sc.Hons., Ph.D. (L'pool), A.I.C. British. 2, Milne Road, Liverpool, 13. Research Student.
Signed by : T. P. Hilditch, R. A. Morton, M. L. Meara.

Miles, Gordon Daw, B.Sc. (Lond.), A.I.C. British. 1, St. George's Terrace, Regents Park, N.W. 1. Analytical Chemist, Water and Sewage.
Signed by : W. Rogie Angus, H. J. Evans, L. F. Gilbert.

Phillipson, John Maddison, B.Sc. (Lond.), A.I.C. British. 52, Elmwood Avenue, Belfast. Industrial Chemist.
Signed by : Henry Wren, H. Lambourne, W. Taylor.

Reid, William Walter, A.I.C. British. 54, Julien Road, S. Ealing, W. 5. Chemist and Bacteriologist.
Signed by : B. Meredith Brown, B. F. Sawbridge, L. J. Bellamy.

Reynolds, George David, Ph.D., M.Sc., B.Sc. (Sheffield), A.I.C. British. 80, Parkway, Welwyn Garden City. Research Chemist.
Signed by : Brynmor Jones, J. C. Speakman, E. Gertrude Turner, Arthur W. Chapman.

Roach, John, A.I.C. British. 6, Chestnut Avenue, Widnes. Analytical Chemist.
Signed by : J. G. Cockburn, Aneurin Williams, Mary E. Miller.

Samson, Abraham, A.R.C.S., A.I.C. British. Samor Lodge, Park Road, Didcot. Consulting Food Chemist.
Signed by : H. J. T. Ellingham, A. A. Eldridge, James C. Philip.

Savage, Leslie Henry Wallis, M.Sc. (Lond.), A.I.C. British. 39, Rutherglen Road, Corby. Chemist and Chemical Engineer.
Signed by : R. Leslie Collett, J. J. Fox, B. A. Ellis.

Shaffer, Gershon, B.Sc.Hons. and M.Sc. (Manc.). British. 7, Mill Court, Mill Road, West Drayton. Technical Development Chemist.
Signed by : G. N. Burkhardt, Colin Campbell, J. B. M. Herbert.

Waddington, Arthur Hill, B.Sc.Hons. (Birm.), A.I.C. British. 23, Torver Road, Harrow. Chief Chemist and Bacteriologist.
Signed by : A. Parker, Wm. Wardlaw, S. R. Carter.

Walthew, Reginald Carrington, M.Sc. Tech. (Manc.), A.I.C. English. 7, West Common Gardens, Scunthorpe. Fuel Engineer.
Signed by : R. Leslie Collett, R. John Sudlow, Norman B. Biggs.

Webb, Charles Ernest, B.Sc.Hons. (Lond.), A.I.C. British. 75, Station Road, Glastonbury. Analytical and Research Chemist at a boot and shoe factory.
Signed by : H. T. S. Britton, R. King, L. L. Bircumshaw.

Webber, Harold Frank Philip, B.Sc. (Lond.), A.I.C. British. Willow Walk, Chertsey. Chief Chemist to a Brewery.
Signed by : Robert H. Pickard, J. Kenyon, A. Houston.

Wilkinson, John Henry, B.Sc. (Lond.), M.P.S., D.B.A. British. 5, Avondale Court, Churchfields, South Woodford, E. 18. Pharmacist and Biochemist.
Signed by : C. Kemplay, H. Lucas, E. R. Thomas.

Wilson, Donald Cumming, B.Sc. (Edin.), Associate of Heriot-Watt College, A.I.C. British. 28, St. Ninian's Road, Corstorphine, Edinburgh. Technical Chemist.
Signed by : William Francis Martin, Henry E. Watt, James W. Laing.

Wilson, Walter. British. Church Road, Wisbech St. Mary. Student for B.Sc. and A.R.C.S. in Chemistry at the Royal College of Science.
Signed by : G. A. R. Kon, H. V. A. Briscoe, A. H. Cook.

Wiseman, Leonard Albert, B.Sc.Hons. (Lond.), A.I.C. British. Munayfield, Elmlea Avenue, Bristol, 9. Assistant Lecturer and Demonstrator in Chemistry, King's College, London.
Signed by : G. M. Bennett, Gwyn Williams, H. D. Springall.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD :

Gerdes, Joachim Friedrich August, B.Sc. (Witwatersrand), Diplom Ingénieur (Techn, Hochschule, Aachen), A.I.C. British. 9, Seymour Avenue, Parktown West, Johannesburg. Chemist to Refractories Section of the Consolidated Rand Brick Pottery and Lime Co., Ltd.
Signed by : Henry Stephen, L. Golberg.

Jolly, S. Edward, B.S. in Ch.E. (Grove City College). American. Sun Oil Company, Chester Pike, Norwood, Pa. Chemist.
Signed by : A. E. Dunstan.

PAPERS RECEIVED

List of papers received between June 19th and July 21st, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" The salting out of weak electrolytes. The temperature effect." By T. J. Morrison.

" Palmitoyl- and stearoyl-glycylglycine and diglycylglycine." By A. Koebner.

" Experiments on the synthesis of substances related to the sterols. Part XXXVIII. Ethyl *cyclo*hexane-1 : 4-dionecarboxylate and some other intermediates." By Sir Robert Robinson and E. Seijo.

" Experiments on the synthesis of substances related to the sterols. Part XXXIX. (*a*) Some derivatives of hydrindene. (*b*) Reduction of 1-γ-ketobutyl-2-naphthol." By F. J. McQuillin and Sir Robert Robinson.

" The coupling of *m*-fluorophenol with some diazotised amines and the preparation of 2-fluorobenzoquinone." By H. H. Hodgson and D. E. Nicholson.

" The isomeric mandelohydrazones of benzoin." By Miss E. M. Luis and Alex. McKenzie.

" The influence of substituents on the reactivity of the hydroxyl group in β-phenylethyl alcohol." By G. M. Bennett and M. M. Hafez.

" The cleavage of some arylazo-β-naphthylamines by alcoholic hydrochloric acid." By H. H. Hodgson and C. K. Foster.

" Comments on the influence of the solvent on the relative strengths of monocarboxylic acids." By J. F. J. Dippy.

" Preliminary observations on the behaviour of rhenium and of the complex thiocyanates of rhenium and molybdenum with toluene-3 : 4-dithiol." By Miss C. C. Miller.

"Qualitative semimicro-analysis with reference to Noyes and Bray's system: The copper and the tellurium group." By MISS C. C. MILLER.

"The mobility of groups in chloronitrodiphenylsulphones." By J. D. LOUDON and N. SHULMAN.

"Addition of maleic anhydride and ethyl maleate to substituted styrenes." By B. J. F. HUDSON and SIR ROBERT ROBINSON.

"Nitrous acid as a nitrating and oxidising agent. Part V. Reactions with the four 3-halogenodimethylanilines." By H. H. HODGSON and D. E. NICHOLSON.

"Hexamethoxybenzene." By SIR ROBERT ROBINSON and C. VASEY.

"A new route to the synthesis of dibenzfluorenones." By G. SWAIN and A. R. TODD.

"Polycyclic aromatic hydrocarbons. Part XXVIII. Dibenzfluorenes." By R. H. MARTIN.

"Structures of degradation products of picene." By J. W. COOK.

"The bimolecular condensation of *p*-propenylanisole (anethole) under the influence of heat." By N. R. CAMPBELL.

"The associating effect of the hydrogen atom. Part VIII. The N–H–N bond. Benziminazoles, glyoxalines, amidines, and guanidines." By L. HUNTER and J. A. MARRIOTT.

"Electric polarisation and molecular vibrations. The ethylene dihalides and diacetyl." By G. I. M. BLOOM and L. E. SUTTON.

"An interpretation of the Sandmeyer reaction." By H. H. HODGSON, S. BIRTWELL, and (in part) J. WALKER.

"The cyclic methyleneimines. Part IV. Hydrolysis of quaternary compounds. Preparation of secondary amines." By J. GRAYMORE.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

British Aluminium Co., Ltd. Chemical analysis of aluminium and its alloys. London 1938–40. pp. 85 + 32. ill. (*Recd.* 21/7/41.)
From the Director.

II. *By Purchase.*

American Institute of Physics [and others]. Temperature, its measurement and control in science and industry. Papers presented at a symposium. New York 1941. pp. xiv + 1362. ill. $11. (*Recd.* 24/6/41.)

Babbitt, Harold E. Sewerage and sewage treatment. 5th edition. New York 1940. pp. xx + 648. ill. $5. (*Recd.* 24/6/41.)

Beck, Adolf. The technology of magnesium and its alloys. Translated by the technical staffs of F. A. Hughes & Co., Ltd., and Magnesium Elektron, Ltd. London 1940. pp. xxiv + 512. ill. 30*s*. net. (*Recd.* 24/6/41.)

Berkman, Sophia, Morrell, Jacque C., and Egloff, Gustav. Catalysis, inorganic and organic. New York 1940. pp. xii + 1130. ill. $18. (*Recd.* 25/6/41.)

Eddy, Walter H. What are the vitamins? New York 1941. pp. viii + 247. ill. $2.50. (*Recd.* 24/6/41.)

Ellis, Carleton, and Wells, Alfred A. The chemical action of ultraviolet rays. [2nd] revised edition. By Francis F. Heyroth. New York 1941. pp. x + 961. ill. $12. (*Recd.* 24/6/41.)

Patterson, Austin M., and Capell, Leonard T. The ring index: a list of ring systems used in organic chemistry. (American Chemical Society Monograph Series.) New York 1940. pp. 661. (*Reference.*) $8.

Wilson, John Arthur. Modern practice in leather manufacture. New York 1941. pp. 744. $9.50. (*Recd.* 24/6/41.)

III. *Pamphlets.*

Medical Research Council. *Therapeutic Requirements Committee.* Economy in the use of drugs in war-time. London 1941. pp. 18.

St. Andrews, University of. Centenary Lecture. The Chair of Chemistry in the United College of St. Salvator and St. Leonard. By Sir James Colquhoun Irvine. Edinburgh 1941. pp. 27. ill.

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August 1941

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETINGS IN LONDON.

Thursday, October 16th, 1941, at p.m.

Eighth Hugo Müller Lecture, entitled: "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S.

MEETINGS OUTSIDE LONDON.

EDINBURGH.

Tuesday, November 11th, 1941, at 6.30 p.m.

Lecture on "The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc. Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Biochemical Lecture Theatre, Teviot Place.

LIVERPOOL.

Thursday, November 13th, 1941.

Lecture by Professor T. P. Hilditch, D.Sc., F.I.C. Further particulars to be announced.

SHEFFIELD.

Friday, November 21st, 1941, at 5.30 p.m.

Lecture on "Polymers," by Professor H. W. Melville, D.Sc., Ph.D., F.R.S. Joint meeting with the Sheffield University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

LEEDS.

Friday, October 13th, 1941.

Lecture by Dr. J. Monteath Robertson. Further particulars to be announced later.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The intimation of the sudden death on August 6th of the President, Professor James C. Philip, F.R.S., was received by the Officers of the Society with profound sorrow on August 7th, and the senior Secretary consented to convey their sympathy to Mrs. Philip. The Society was represented at the funeral service on August 9th by Dr. C. W. Davies, Professor W. Wardlaw, the General Secretary and the Librarian.

The Council regret also to announce the deaths of the following Fellows :

	Elected.	Died.
Frederick W. Hampshire	1930	July 20th.
Hermann G. Mohrhenn	1931	July 3rd.
Sir Francis G. Newbolt	1885	November 5th, 1940.
James A. Pond	1890	June 8th.
Robert Robison	1911	June 18th.
Leonard T. Thorne	1882	July 23rd.
Henry H. Whitelegg	1939	
Sir William F. Wyley	1884	August 11th, 1940.

DISPATCH OF THE PUBLICATIONS OF THE SOCIETY.

In an effort to overcome the delay that has occurred in issuing the publications this year, the Council have taken steps which should ensure that these will be sent out more promptly in the future.

ACKNOWLEDGMENTS.

The Council have expressed their thanks to the Royal Society for a grant of £300 from the Government Publications Grant towards the cost of the Society's publications for 1941; to Mr. J. Bruce Miller, Colonel R. B. Turbutt and " Anonymous " for contributions to the Publications Fund, and to Miss C. M. G. Mohrhenn and Dr. G. H. Wyatt for volumes of the Society's publications.

HARRISON MEMORIAL PRIZE.

In accordance with the Trust Deed governing the Harrison Memorial Fund, the Selection Committee consisting of the Presidents of the Chemical Society, the Institute of Chemistry, the Society of Chemical Industry, and the Pharmaceutical Society, will proceed to make an award of the Harrison Memorial Prize in December next.

The Prize, of the value of about £150, will be awarded to the chemist of either sex, being a natural-born British subject and not at the time over thirty years of age, who, in the opinion of the Selection Committee, during the previous five years has conducted the most meritorious and promising original investigations in any branch of pure or applied chemistry and published the results of those investigations in a scientific periodical or periodicals.

Provided that, in the opinion of the Selection Committee, there is a candidate of sufficient distinction to warrant an award of the Prize, the next award will be made in December, 1941.

Applications, five copies of which must be submitted, should contain the following information:

(*a*) Name (in full).
(*b*) Age (Birth certificate must accompany application).
(*c*) Degrees (name of University where obtained).
(*d*) Other qualifications.
(*e*) Experience.
(*f*) Titles of published papers, with authors' names, including full references to publication.
(*g*) Where research was carried out.
(*h*) Testimonials or references.
(*i*) Any other particulars bearing on the application.

The Selection Committee is prepared to receive applications, nominations, or information as to candidates eligible for the Prize. Any such communication must be received by

The President,
The Chemical Society,
Burlington House,
Piccadilly,
London, W.1.

not later than Monday, December 1st, 1941. Candidates for the Prize must not be more than 30 years of age at this date.

FELLOWSHIP.

The resignations of 10 Fellows have been accepted; 5 Fellows have been reinstated and the following 63 candidates were elected Fellows on August 7th:

William Taylor Allan.
Ronald Lewis Allen.
John Edmund Aps.
Arthur Price Backshell.
Donald Greatbatch Barkla.
Caleb Binns.
Thomas Hedley Blakeley.
Joan Elizabeth Blomfield.
Enid Agnes Margaret Bradford.
William Bullough.
William James Carter.
William Thomas Chambers.
Kenneth Thomas Chapman.
Joseph Clifford.
Frederick George Crosse.
Michael Joseph Curran.
Thomas Pride Dee.
William Thornton Dow.
Albert Norman Edmondson.
Philip Edward Lodovico Farina.
Alexander Langridge Ford.
John Foster.
William Gray.
Gilbert Harding.
Clifford Harris.
Arthur Ingrey Hayes.
Herbert Colston Hillman.
David M'Rae Honeyman.
George Lewis Hutchison.
Maurice Arthur George Kaye.
Douglas Graham Kerr.
Leslie Walter King.
William Julian Kramers.
Arthur Ronald Lockwood.
Charles Robertson Louden.
Edward Ian McDougall.
Harold Colin Macfarlane.
Ian Nuttall Merrill.
John Garnet Frederick Miller.
James Milne.
Charles Arthur Minors.
Harold Edward Monk.
Reginald James Munro.
Wilfred Murray.
Mamie Olliver.
Frederick Perkins.
Leonard William Ragg.
Thomas Raine.
Walter James Rees.
John William Reidy.
Charles Fletcher Roberts.
Muriel Roberts.
Leonard Unthank Salkield.
Stanley Victor Sergeant.
Eric James Sewell.
Sydney William Sleigh.
Oliver Ward Stickland.
William Norman Stokoe.
Norman Eric Topp.
Alexander Urie.
Kenneth Sidney Warner.
James Macer Wright.
John Lewis Yuill.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of any of these candidates should communicate with the Honorary Secretaries not later than Monday, September 15th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Ainsworth, Arthur Nicholls, B.Sc. (Lond.), A.I.C. British. Pinewood House, Uxbridge Road, Pinner. Research and Analytical Chemist.
Signed by : Leslie H. Lampitt, E. B. Hughes, C. Dorée.

Barlow, Charles Gerald, M.A. (Cantab.), A.I.C. British. The Hermitage, Fulmer Road, Gerrards Cross. Chemist in laboratories of food manufacturing firm.
Signed by : P. Bilham, H. E. Bradfield, H. S. Rooke.

Bennion, Edmund Baron, M.Sc. (Tech.), F.I.C., Full Technological Certificate City and Guilds of London in Flour Milling and Breadmaking Technology. British. 8, Broadmead Road, Woodford Green. Head of National Bakery School.
Signed by : R. A. Peters, Jas. Sword, C. W. Herd.

Chadwick, Eric, B.Sc. and M.Sc. Tech. (Manc.). British. Norwood, Heywood Hall Road, Heywood. Research Chemist (Industrial).
Signed by : J. Kenner, John K. Wood, A. F. H. Ward.

Clark, Douglas, B.A. and B.Sc. (Oxon.). British. 11, Kenyon Avenue, Wrexham. Technical Assistant.
Signed by : Ronald P. Bell, G. V. Raynor, H. M. Powell.

Cowin, Robert Archibald, A.I.C. British. 14, Ulster Road, Bowerham. Research Chemist.
Signed by : J. J. Fox, Robert H. Pickard, R. Leslie Collett.

Dalgliesh, Charles Edward, 3rd year student, Cambridge University, 1st Class in Part I. British. Trinity College, Cambridge. Undergraduate.
Signed by : F. G. Mann, H. McCombie, N. B. Chapman.

Davis, John Gilbert, D.Sc., Ph.D. (Lond.), F.I.C. British. Shinfield, Reading. Bacteriologist.
Signed by : H. D. Kay, R. Leslie Collett, J. J. Fox.

Downer, John Douglas, B.Sc.Hons., A.R.C.S., A.I.C. British. 72, Falconwood Avenue, Welling, Kent. Research Chemist.
Signed by : H. A. Piggott, E. H. Rodd, M. Barrowcliff.

Gillies, Malcolm, M.A., B.Sc. (Glas.), D. Phil. (Frankfurt). British. Wyvis Cottage, Lockleys, Welwyn. Plant Manager.
Signed by : T. S. Work, J. M. Walter, P. Russell.

Haddock, Norman Aulton, B.Sc. (Lond.), A.I.C. British. 7, Canterbury Drive, Prestwick, Manchester. Research Chemist.
Signed by : Samuel Coffey, Percy Chorley, A. W. Baldwin.

Holden, Frank, M.A. (Cantab.). British. 87, King Street, Shrewsbury. Research Chemist
Signed by : A. Marshall, R. C. Farmer, C. S. Bryant.

Jones, Idwal George, B.Sc.Hons. and M.Sc. (Wales), A.I.C. British. 39, Axholme Road, Doncaster. Senior Science Master, The Grammar School, Doncaster.
Signed by : T. Campbell James, C. R. Bury, D. Gwynne Davies.

Krajkeman, Andreas, Dipl. Ing. Chem. E.T.H. (Federal Institute of Technology, Zurich). Polish. 28, St. John's Court, Finchley Road, N.W. 3. Public Analyst's Assistant.
Signed by : Thomas McLachlin, Hugo J. Strauz, Lilian M. Mundy.

Llewellyn, Donald Rees, B.Sc.Hons. (Birm.). British. Brynteg, Woodmancote, Dursley. Research Assistant, The Clarendon Laboratory, University Museum, Oxford.
Signed by : G. A. Jeffrey, S. R. Carter, D. J. G. Ives.

Lovett, Henry, M.P.S. British. 12*b*, Belsize Crescent, N.W. 3. Manager and Secretary of Chemical Works.
Signed by : Hubert A. Berens, Percy Barrs, J. J. Laws.

Meech, Frank Button, B.Sc. (Lond.), A.I.C. British. 9, Eadborne Road, Orrell Park, Liverpool, 9. Works Chemist.
Signed by : W. H. Banks, G. L. Riddell, A. J. E. Welch.

Messenger, Walter George, B.Sc. (Birm.), F.I.C. British. Wissahickon, Sandy Lodge Road, Moor Park, Rickmansworth. Chief Assistant Chemist to Messrs. J. Lyons & Co., Ltd.
Signed by : E. B. Hughes, G. E. Forstner, P. Bilham.

Perry, Cecil Arthur, B.Sc. (Lond.), A.I.C., A.R.C.S. British. 13, Bourne View, Greenford. Research Student at Imperial College.
Signed by : D. H. Hey, G. A. R. Kon, A. H. Cook.

Rayner, Hughe Boynton, Student Member of the Institute of Chemistry. British. The Handside Farmhouse, Handside Lane, Welwyn Garden City. Junior Works Control Chemist, Deputy Plant Manager in half-time charge of works.
Signed by : G. V. James, F. Bergel, A. Cohen.

Ross, Walter Charles Joseph, B.Sc. (Lond.), A.I.C. British. 42, Ripley Gardens, Mortlake, S.W. 14. Research Student at Imperial College.
Signed by : G. A. R. Kon, E. R. H. Jones, Charles Simons.

Selfe, Francis Leslie, A.I.C. British. 1 Wiseton Road, Sheffield, 11. Steelworks Analytical Chemist.
Signed by : H. Lambourne, W. Taylor, R. Leslie Collett.

Smith, Ralph Austin, M.P.S. British. 3, Barbourne Road, Worcester. Pharmacist (Practising medical and brewing analyses).
Signed by : H. Humphreys Jones, J. Ross-MacKenzie, R. Harold Morgan.

Turner, Laurence Walter, B.Sc.Hons. (Dun.). British. 22, Westbury Road, Ipswich. Research Chemist.
Signed by : Geoffrey Swann, R. S. Colborne, A. P. Best.

Tyrrell, Arthur. British. 277, Coldharbour Lane, S.W. 9. Assistant Research Chemist.
Signed by : D. H. Hey, E. R. H. Jones, Charles Simons.

Willey, Walter Lloyd. Studied at Polytechnic, London, Sir John Cass Tech. Institute. Studied and worked in Continental Charcoal Works, 1898—1900. Member of the Society of Chemical Industry, Fellow Royal Society of Arts. 42 years in Carbon Chemicals. British. 5, Vanbrugh Fields, Blackheath, S.E. 3. Director of firm of Chemical Manufacturers.
Signed by : John Knaggs, E. F. Armstrong, E. V. Evans.

Wilson, Alfred Peter, M.A. (Cantab), 20 years in Chemical Industry. British. The Lyons, Enville, nr. Stourbridge. Technical and Research Director.
Signed by : R. Topley, J. G. Clarke, G. S. King, S. Bennett.

Wise, Stanley George Arthur, A.I.C. British. 1, The Crescent, Hall Lane, Horsforth, nr. Leeds. Works Chemist and Departmental Manager.
Signed by : Frederick M. Rowe, Arnold T. Peters, H. Burton.

Wiseman, Cecil Edgar, B.Sc. (Lond.), A.I.C., A.C.G.F.C. British. 1, Poplar Grove, Maidstone. Chemist to a firm of Manufacturing Confectioners.
Signed by : Wm. H. Woodcock, J. C. Mellersh, F. W. F. Arnaud.

UNDER SPECIAL PROVISIONS APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Bost, Ralph Walton, A.B. Newberry College, 1923; A.M. and Ph.D. University of North Carolina. American. Department of Chemistry, University of North Carolina, Chapel Hill, North Carolina. Head, Department of Chemistry and Professor of Chemistry, University of North Carolina.
Signed by : Frank C. Whitmore.

Pomeraniec, Jakob, Dr. Ing., Dipl. Ing. Technical College, Berlin. Polish. 55, Greencroft Gardens, N.W. 6. Research and Manufacturing Chemist.
Signed by : K. Wallersteiner, R. Barrington Brock.

Reeson, William Bateman, A.I.C., A.M.C.T. British. Apartado 763, Barranquilla, Colombia, South America. Chief Chemist, Fabrica de Rayon Viscosa, Barranquilla.
Signed by : J. J. Fox, R. Leslie Collett.

Sandler, Robert, B.Sc. Eng. (Witwatersrand), A.R.T.C. (Glas.), A.I.C., Member South African Chemical Institute, Member American Society for Testing Materials. Union of South Africa (Union National). c/o Anglo-Alpha Cement Ltd., P.O. Box 15, Roodepoort, Transvaal, S. Africa. Chief Chemist, Anglo-Alpha Cement, Ltd.
Signed by : W. M. Cumming.

PAPERS RECEIVED

List of papers received between July 21st and August 20th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" The decomposition of arylazo-β-naphthylamines by sodium nitrite and glacial acetic acid." By H. H. HODGSON and C. K. FOSTER.
" The constitution of lupeol." By E. R. H. JONES and R. J. MEAKINS.
" Surface films of lupane derivatives." By P. BILHAM, E. R. H. JONES, and R. J. MEAKINS.
" The exchange reactions of 4-nitro-1-naphthyl methyl ether and 4-nitro-1-naphthylethyl ether with sodium ethoxide and methoxide respectively, and the reduction of certain 1-nitronaphthalene derivatives." By H. H. HODGSON and J. HABESHAW.
" The photolysis of some chloronitroso-compounds." By S. MITCHELL, K. SCHWARZWALD, and G. K. SIMPSON.
" The kinetics of aromatic bromination. Part I. The anilides." By P. W. ROBERTSON, P. B. D. DE LA MARE, and W. T. J. JOHNSTON.
" Two ketones of the stilboestrol group." By MRS. R. JAEGER and SIR ROBERT ROBINSON.
" Benz-*cyclo*-octatetraenes. Part II. The action of acetic anhydride on δ-benzylidene-lævulinic acids." By W. S. RAPSON and R. G. SHUTTLEWORTH.
" Some derivatives of thioxanthene." By C. V. T. CAMPBELL, A. DICK, J. FERGUSON, and J. D. LOUDON.
" 6-Bromo-2-methoxy-1-naphthoic acid." By F. L. WARREN, M. GINDY, and F. G. BADDAR.
" Derivatives of 1 : 2 : 3 : 4-tetrahydroxybenzene. Part VII. The synthesis of fumigatin." By W. BAKER and H. RAISTRICK.
" Derivatives of pentahydroxybenzene and a synthesis of pedicellin." By W. BAKER.
" Carboxylic acids derived from 4 : 4′-diaminodiphenylsulphone." By W. H. GRAY and B. C. PLATT.
" Mechanism of aromatic side-chain reactions with special reference to the polar effects of substituents. Part X. Physical and chemical evidence relating to the polar effect of *o*-methyl substituents in derivatives of the type $(CH_3)_3C_6H_2{\cdot}CO{\cdot}CH_2R$." By J. W. BAKER and W. T. TWEED.
" Molecular volume and structure. Parts III, IV, and V." By T. W. GIBLING.
" Note on the constitution of β-boswellic acid." By J. C. E. SIMPSON and G. A. R. KON.
" On two lower oxides of boron." By R. C. RAY and P. C. SINHA.

ECHNOLOGY DEPT.

September, 1941

THE CHEMICAL SOCIETY

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NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, October 16th, at 2.30 p.m.

Eighth Hugo Müller Lecture entitled: "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S.

Thursday, October 30th, at 2.30 p.m.

Lecture on "The Constitution of Plastics," by Dr. C. Redfarn. Joint meeting with the Plastics Group of the Society of Chemical Industry.

Thursday, November 20th, at 2.30 p.m.

Lecture on "X-Rays and the Stoicheiochemistry of the Proteins," by Dr. W. T. Astbury, F.R.S.

OUTSIDE LONDON.

DUNDEE.

Wednesday, November 12th, at 4 p.m.

Lecture on "The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc., to be held in the Chemistry Department, University College.

EDINBURGH.

Tuesday, November 11th, at 6.30 p.m.

Lecture on "The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc. Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Biochemical Lecture Theatre, Teviot Place.

LEEDS.

Monday, October 13th, at 6.30 p.m.

Lecture on "Analysis of Molecular Structure by *X*-Ray Methods," by Dr. J. Monteath Robertson. To be held in the General Lecture Theatre of the University.

LIVERPOOL.

Thursday, November 13th, at 3 p.m.

Lecture on "Some Recent Developments in the Experimental Study of Animal Fats," by Professor T. P. Hilditch, D.Sc., F.I.C. To be held in the Muspratt Lecture Theatre of the University.

NORTH WALES.

Friday, November 7th, at 5.15 p.m.

Lecture on "The Hemp Drugs," by Professor A. R. Todd, D.Sc., Ph.D. Joint meeting with the University College of North Wales, Bangor, Chemical Society, to be held in the Chemistry Lecture Theatre of the College.

NOTTINGHAM.

Saturday, November 15th, at 3 p.m.

Eighth Hugo Müller Lecture entitled: "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S., to be held in the Chemistry Lecture Theatre, University College, Shakespeare Street.

SHEFFIELD.

Friday, November 21st, at 5.30 p.m.

Lecture on "Polymers," by Professor H. W. Melville, Ph.D., D.Sc., F.R.S. Joint meeting with the Sheffield University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The loss sustained by the Society through the death of the President, Professor James C. Philip, was announced in the Proceedings for August. At their meeting on September 18th, the Council passed the following resolution, which has been communicated to Mrs. Philip:

"The Officers and Council of the Chemical Society have heard with profound sorrow of the death, on the 6th August, of their distinguished President, Professor James Charles Philip. Throughout the past 30 years he had a unique record of faithful service to the Society having been successively Member of the Council, Honorary Secretary, Vice-President, Chairman of the Publication Committee and Chairman of the Bureau of Chemical Abstracts.

"They desire to express their grateful admiration of his achievements not only as a scientist and as a tireless worker for education and in the Government Service, but also as a man much loved and respected by all who came in contact with him.

"They recognize that his death will be felt as a grievous loss by everyone who has the welfare of the Society and of the science of Chemistry at heart.

"The Council offer their deepest sympathy to Mrs. Philip."

The Council regret to announce the death on August 14th of Professor Paul Sabatier (Honorary Fellow). They have passed the following resolution:

"The Officers and Council of the Chemical Society have learned with profound sorrow of the death on August 14th of Professor Paul Sabatier, who was elected an Honorary Fellow of the Chemical Society in March 1920. They deplore the loss of their distinguished colleague.

"They record their high appreciation of the signal services which he, as one of the founders of the modern developments of catalysis, has rendered to the Science of Chemistry, services to which he devoted a life-long study and for which he was awarded in 1912 the high honour of the Nobel Prize.

"They regret that circumstances do not at present permit them to convey to his relatives and colleagues in France their deep sympathy with them in the irreparable loss which they, in common with Chemists throughout the world, have sustained."

Intimation of the following deaths has also been received, and the sympathy of the Council has been conveyed to the relatives:

	Elected.	Died.
Septimus Dyson	1883	September 13th.
Robert B. Floris	1892	June 12th.
Arthur G. Green	1885	September 12th.
James Kentish	1941	August 13th.
William Macnab	1890	September 2nd.
William R. Ormandy	1890	September 11th.

PRESIDENT.

The Council have the pleasure to announce that Dr. W. H. Mills, M.A., F.R.S., has accepted, until the next Annual General Meeting, the office of President.

RESEARCH GRANT.

The Council have made a grant of £10 to Professor F. Challenger for a research on "Preparation of certain Thiocyanates."

ADVISORY RESEARCH COUNCIL.

Dr. J. C. Smith has been appointed as a Member of the Advisory Research Council.

FELLOWSHIP.

The following 73 new Fellows have been elected:

Charles Gordon Addingley.
Arthur Nicholls Ainsworth.
Donald Atherton.
Alfred Thomas Symonds Babb.
Charles Gerald Barlow.
Charles Thomas Beer.
Edmund Baron Bennion.
Joseph Booton.
Ralph Walton Bost.
Eric Chadwick.
Douglas Clark.
Frank Cooke.
Frank Harriss Cotton.
Robert Archibald Cowin.
Charles Edward Dalgliesh.
Alexander Linton Davidson.
John Gilbert Davis.
John Douglas Downer.
Norman Ferry.
Joachim Friedrich August Gerdes.
Malcolm Gillies.
Reginald Edwin Goddard.
Harry Stanley Greenwood.
Herbert Donald Greenwood.
Norman Hulton Haddock.
Arnold Schofield Haigh.
Charles Henry Hands.
Clifford Stuchbery Harper.
Wilfred Hartley.
Harold Wilton Hewis.
Frank Holden.
Harold Hamilton Hutt.
S. Edward Jolly.
Idwal George Jones.
Robert Owen Jones.
Andreas Krajkeman.
Malcolm Littlejohn.
Donald Rees Llewellyn.
Henry Lovett.
George McLaren.
George Torquil Macleod.
Lionel Maddison.
Frank Button Meech.
Walter George Messenger.
Gordon Daw Miles.
Cecil Arthur Perry.
John Maddison Phillipson.
Hughe Boynton Rayner.
William Bateman Reeson.
William Walter Reid.
George David Reynolds.
John Roach.
Walter Charles Joseph Ross.
Abraham Samson.
Robert Sandler.
Leslie Henry Wallis Savage.
Francis Leslie Selfe.
Gershon Shaffer.
Ralph Austin Smith.
Laurence Walter Turner.
Arthur Tyrrell.
Arthur Hill Waddington.
Reginald Carrington Walthew.
Charles Ernest Webb.
Harold Frank Philip Webber.
John Henry Wilkinson.
Walter Lloyd Willey.
Alfred Peter Wilson.
Donald Cumming Wilson.
Walter Wilson.
Stanley George Arthur Wise.
Cecil Edgar Wiseman.
Leonard Albert Wiseman.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, October 13th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Adam, Hector Robert, B.Sc. (Aberdeen), F.I.C. British. The Laboratory, Government Gold Mining Areas, Ltd., P.O. State Mines, Transvaal, South Africa. Chief Chemist.
Signed by: Henry Stephen, J. McCrae, H. R. Raikes.

Barton, Leonard Henry Greenwood, B.Sc. (Lond.), F.I.C. British. The Spinney, Lextow Gardens, S.W. 12. Ministry of Food, Scientific Assistant.
Signed by: J. C. Drummond, A. L. Bacharach, Wm. Wardlaw.

Cachia, Vincent Anthony, B.Sc. (Lond.), A.I.C. British. c/o Crosse and Blackwell (S.A.), Ltd., P.O. Box 1605, Cape Town, S. Africa. Works chemist and manager (foodstuffs).
Signed by: E. Newbery, P. C. Carman, W. S. Rapson.

Cohen, Horace Goldsmith. Private research during last war, 1918, was engaged on poison gas research. British. 15, Pitmaston Court, Goodby Road, Moseley, Birmingham, 13. Managing Director.
Signed by: J. S. Jennings, Francis G. Belton, Stanley Peat.

***Compston, Malcolm Ridyard,** B.Sc. (Reading). British. 22, The Crescent, Macclesfield. Analytical Chemist.
Signed by: H. Bassett, D. Roy Maxted, Thomas H. Goodwin.

Duerden, Alan, B.Sc.Hons. and M.Sc. (Manc.), A.I.C. British. 29, Station Road, Reddish, Stockport. Research Chemist.
Signed by: Colin Campbell, Fred Fairbrother, F. S. Spring.

Evans, Frank Sydney, Member of Soc. Chem. Ind., Member of Inst. of Fuel. British. 30, Cliff End, Purley. Technical Representative on Coke and other By-products to South Metropolitan Gas Company.
Signed by: E. F. Armstrong, E. V. Evans, F. M. Potter.

Griffiths, William Victor, B.Sc. (Wales), A.I.C. British. c/o Williams and Woods, Ltd., Parnell Street, Dublin. Factory Manager—Williams and Woods, Ltd.; Director—Crosse and Blackwell (Ireland), Ltd.
Signed by: T. S. Wheeler, J. W. Parkes, A. G. G. Leonard, T. J. Nolan.

Hay, Thomas Congalton, B.Sc. (Lond.), Formerly assistant in City Analyst' Laboratory, Edinburgh, for 4 years. British. 19, The Crescent, Holmer, Hereford. Lecturer, Crumlin Technical College, Monmouthshire.
Signed by: J. E. Coates, E. E. Ayling, L. E. Hinkel.

Kidney, Allan James, B.Sc. and Ph.D. (Lond.), A.R.C.S., A.I.C. British. Inglenook, Newfordge Lane, Belfast. Chief Chemist.
Signed by: Henry Wren, G. S. Robertson, T. E. Ellison.

Le May, Cecil Hugh, B.Sc., Member of Soc. Chem. Ind. English. 40, Berkeley Square, W. 1. Manager and Chief Technical Engineer.
Signed by: S. Bowrey, F. P. Dunn, C. B. Wingfield.

Lee, Herman, B.Sc. (Lond.), F.I.C. British. 81, Whitchurch Gardens, Edgware. Chief Chemist, Aerated Bread Company and associated Companies.
Signed by: C. L. Claremont, R. Leslie Collett, J. J. Fox.

Mole, Jessie Dorehill Crampton, B.Sc., Ph.D. (Lond.). British. 17, Norman Road, Runcorn. Research Chemist.
Signed by: Leslie J. Burrage, Mary Eynon Miller, O. D. Mooney.

Pal, Nicholas, Industrial chemist and paint research worker. Hungarian. Grosvenor House, Park Lane, W. Managing Director.
Signed by: K. Wallersteiner, L. A. Jordan, H. de Laszlo.

Patient, David James, A.I.C. British. Woodcote, Elm Park Road, Pinner. Chief Chemist to a firm of Food Manufacturers.
Signed by: Eric C. Wood, W. B. Adams, Percy Egerton.

***Pearman, Roy William,** B.Sc., A.R.C.S. (Lond.). British. 149, Herbert Road, Plumstead, S.E. 18. Research Chemist.
Signed by: E. R. H. Jones, J. N. Sugden, A. H. Cook.

Roberts, William Henry, M.Sc. (Vict. and L'pool), F.I.C. British. City Analyst's Laboratories, Mount Pleasant, Liverpool, 3. City Analyst for Liverpool; Public Analyst for Barrow-in-Furness, Birkenhead, Blackburn, Bootle, Crosby, Kendal, Preston and Southport and Professor of Public Health Chemistry in the University of Liverpool.
Signed by: J. J. Fox, T. P. Hilditch, Francis H. Carr, L. A. Jordan.

Storey, Ralph Charles, Ph.D., M.Sc. (Leeds), F.I.C. British. 18 Gledhow Park Crescent, Chapel Allerton, Leeds, 7. Chief Chemist and Technical Manager.
Signed by: Frederick M. Rowe, Arnold T. Peters, H. Burton.

Wark, John Jeffrey, A.I.C. British. Pladda, 1, Aldborough Spur, Slough. Chemist.
Signed by: A. G. Pollard, N. W. Hanson, H. Brunner.

***Whitehead, Richard Leslie St. Dalmas,** B.A. (Oxon). British. 43, Chalfont Road, Oxford. Research Chemist.
Signed by: Ronald P. Bell, F. E. King, W. Baker.

Wokes, Frank, Ph.D. (Lond.), B.Sc. (L'pool), F.I.C., Ph.C. British. King's Langley, Herts. Director of Research.
Signed by: Wilfred H. Linnell, R. A. Morton, Katharine H. Coward, E. Gabriel Jones.

Wood, Margaret, B.Sc. (Lond.), A.I.C., Associate of Heriot Watt College. British. 21, Marlborough Road, Broomhill, Sheffield, 10. Works Chemist.
Signed by: R. F. Hunter, Percy N. Williams, R. J. Munro.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD:

Cook, Elton Straus, B.A. (Oberlin), Ph.D. (Yale). American. Institutum Divi Thomæ, 1840, Madison Road, Cincinnati, Ohio. Research Professor in Chemistry and Biochemistry.
Signed by: John R. Loofborrow.

Foreman, Emanuel Leon, B.S., University of Illinois, 1930; M.S. Institute of Paper Chemistry, 1931, Ph.D. University of Wisconsin, 1940. Member of The American Chemical Society. U.S.A. Citizen. 3008, N. Maryland Avenue, Milwaukee, Wisconsin. Director of Chemical Research, The Lakeside Laboratories, Inc., 4574, N. Port Washington Road, Milwaukee, Wisconsin.
Signed by: E. M. McElvain.

Jack, John Will, B.Sc. (Lond.), A.I.C. British. c/o Searles, Ltd., Great Brak River, Cape Province, S. Africa. Chemist to Searles, Ltd., Tanners.
Signed by: W. Pugh, W. F. Barker.

* Reduced Annual Subscriptions.

PAPERS RECEIVED

List of papers received between August 20th and September 19th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Studies in aromatic substitution. Part IV. The action of fuming nitric acid on 3-fluoroanisole and on the 3-fluoro-2-, -4-, and -6-nitroanisoles." By H. H. Hodgson and J. Nixon.

"Experiments on the formation of mixed osazones and their anhydrides." By E. E. Percival and E. G. V. Percival.

"The electrical conductivities of aqueous solutions of some phenanthrenesulphonic acids." By T. R. Bolam and J. Hope.

"The equilibrium between cuprous and cupric compounds in presence of metallic copper." By J. E. B. Randles.

"The methylation of primary aromatic amines, organic disulphides and sodium sulphite by means of betaine." By F. Challenger, P. Taylor, and (in part) B. Taylor.

"A synthesis of ethyl 1-methylpyrrolidine-2-acetate." By F. E. King, J. W. Clifton, and H. T. Openshaw.

"A preparation of 8-hydroxyquinoline." By F. E. King and J. A. Sherred.

"Note on oestrone azobenzene-4-carboxylate." By F. Bergel and A. Cohen.

"The anti-catalase activity of thiocarbamide." By D. Dickinson.

"The viscosities of aqueous solutions of some phenanthrenesulphonic acids." By T. R. Bolan and J. Hope.

"Comments on the mechanisms of covalent bond fission." By W. A. Waters.

"The standardisation of sodium thiosulphate with potassium dichromate." By B. Dudley Sully.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

ALUMINUM COMPANY OF AMERICA. Chemical analysis of aluminum. 2nd edition. New Kensington 1941. pp. iv + 120. ill. 50*c*. (*Recd.* 11/8/41.) From the Director.

BAKER, JOHN WILLIAM. An introduction to organic chemistry. London 1941. pp. viii + 177. ill. 3*s*. (*Recd.* 9/9/41.) From the Author.

II. *By Purchase.*

GUGGENHEIM, M. Die biogenen Amine. 3rd edition. Basel 1940. pp. xvi + 564. $11.25. (*Recd.* 8/8/41.)

HODGMAN, CHARLES D., and HOLMES, HARRY N. [Editors]. Handbook of chemistry and physics. 24th edition. Cleveland 1940. pp. xviii + 2564. (*Reference.*) $4.

NATIONAL FIRE PROTECTION ASSOCIATION. Crosby–Fiske–Forster handbook of fire protection. 9th edition. General editor, ROBERT S. MOULTON. Boston, Mass. 1941. pp. xxiv + 1307. ill. 4.50. (*Recd.* 2/9/41.)

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TECHNOLOGY DEPT.

October, 1941

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, November 20th, at 2.30 p.m.

Lecture on " X-Rays and the Stoichiochemistry of the Proteins," by Dr. W. T. Astbury, F.R.S.

OUTSIDE LONDON.

DUNDEE.

Wednesday, November 12th, at 4 p.m.

Lecture on " The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc., to be held in the Chemistry Department, University College.

EDINBURGH.

Tuesday, November 11th, at 6.30 p.m.

Lecture on " The Crystallisation of Graphite," by Professor H. L. Riley, D.Sc. Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, to be held in the Biochemical Lecture Theatre, Teviot Place.

GLASGOW.

Friday, November 7th, at 7 p.m.

Lecture on " Forty Years of Optical Activity," by Professor T. S. Patterson, D.Sc., Ph.D., to be held in the Royal Technical College.

LIVERPOOL.

Thursday, November 13th, at 3 p.m.

Lecture on " Some Recent Developments in the Experimental Study of Animal Fats," by Professor T. P. Hilditch, D.Sc., F.I.C., to be held in the Muspratt Lecture Theatre of the University.

MANCHESTER.

Saturday, November 8th, at 2.15 p.m.

Lecture on " Long Molecules," by Dr. H. Hunter and D. F. Howitt. Joint meeting with the Institute of Chemistry and the Society of Chemical Industry, to be held in the Chemistry Lecture Theatre of the University.

NORTH WALES.

Friday, November 7th, at 5.15 p.m.

Lecture on "The Hemp Drugs," by Professor A. R. Todd, D.Sc., Ph.D. Joint meeting with the University College of North Wales Chemical Society, to be held in the Chemistry Lecture Theatre of the College.

NOTTINGHAM.

Saturday, November 15th, at 3 p.m.

Eighth Hugo Müller Lecture entitled: "Some Aspects of Algal Chemistry," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S., to be held in the Chemistry Lecture Theatre, University College, Shakespeare Street.

SHEFFIELD.

Friday, November 21st, at 5.30 p.m.

Lecture on "Polymers," by Professor H. W. Melville, Ph.D., D.Sc., F.R.S. Joint meeting with the Sheffield University Chemical Society, to be held in the Chemistry Lecture Theatre of the University, Western Bank.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, October 16th, 1941, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., Sc.D., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of June 19th, which were taken as read, were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: L. N. Owen, Arthur Tyrrell, A. H. Soane, H. Dreyfus, J. H. Birkinshaw, A. E. Moors, D. M. Honeyman, W. Wilson, N. R. Campbell, A. H. Waddington, C. Alderson Smith, J. L. Stoves, and R. D. Wilson.

EIGHTH HUGO MÜLLER LECTURE.

After a brief introduction, the PRESIDENT called on Professor I. M. Heilbron to deliver the Eighth Hugo Müller Lecture, entitled "Some Aspects of Algal Chemistry."

A vote of thanks to the Lecturer, proposed by Professor J. W. Cook, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

CONGRATULATIONS.

The congratulations of the Society have been conveyed to Sir Robert Robinson, who has been awarded the Paracelsus Gold Medal by the Swiss Chemical Society.

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died
Thomas R. Duggan	1884	September 30th.
John M. Edwards	1925	June 14th.
Robert J. Flintoff	1894	September 13th.
Frederic I. Richardson	1906	June 29th.

The sympathy of the Council has been conveyed to the relatives.

LEGACY.

The Council are glad to announce that a legacy of £1000, free of income tax, has been left to the Publications Fund by the late Mr. Robert H. Parker.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. George Bell for a gift of volumes of the *Journal*.

LOCAL REPRESENTATIVE FOR MANCHESTER.

The Council have received with regret the resignation of Dr. G. N. Burkhardt from the office of Local Representative for Manchester, and have conveyed their cordial thanks to him for the valuable services he has rendered to the Society. Dr. A. E. Gillam has been appointed to this office.

HARRISON MEMORIAL PRIZE.

Applications for the Harrison Memorial Prize must reach the President by December 1st, 1941.

SCHEME OF CO-OPERATION.

As a further stage in the Scheme of Co-operation, it has been decided to establish a central office to deal with the collection of joint subscriptions, the keeping of accounts, and the distribution of publications. Further particulars will be announced in due course. The Institute of Chemistry has agreed to collect the joint annual subscriptions for 1942 from those who are joint members of all three Bodies.

LIBRARY.

From November 24th to January 31st the Library will be open on weekdays from 10 a.m. to 4 p.m., except on Saturdays, when it is entirely closed.

FELLOWSHIP.

The following 26 candidates were elected Fellows on October 16th:

Hector Robert Adam.
Leonard Henry Greenwood Barton.
Vincent Anthony Cachia.
Horace Goldsmith Cohen.
Malcolm Ridyard Compston.
Elton Straus Cook.
Alan Duerden.
Frank Sydney Evans.
Emanuel Leon Foreman.
William Victor Griffiths.
Thomas Congalton Hay.
John Will Jack.
Allan James Kidney.
Cecil Hugh Le May.
Herman Lee.
Jessie Dorehill Crampton Mole.
Nicholas Pal.
David James Patient.
Roy William Pearman.
Jakob Pomeraniec.
William Henry Roberts.
Ralph Charles Storey.
John Jeffrey Wark.
Richard Leslie St. Dalmas Whitehead.
Frank Wokes.
Margaret Wood.

MICROANALYSIS.

To meet the need of Fellows who are engaged in research work and require microanalyses to be carried out, the Council have decided to prepare a list of those willing to undertake such professional work and to supply this list to Fellows who make application to the General Secretary. Those who wish their names to be included in this list of Analysts should communicate with Mr. S. E. Carr.

SUPPLIES OF LABORATORY CHEMICALS AND REAGENTS.

Rigorous economy in the use of all laboratory chemicals in Universities and Institutions and by all industrial users and consultants is an urgent necessity. Manufacturers are maintaining supplies to the fullest extent in the prevailing circumstances, but production adequate to meet all demands is handicapped by the scarcity of raw materials and many other factors.

To ensure regular supplies of essential laboratory chemicals a scheme has been discussed with the Raw Materials Department of the Ministry of Supply. In order to facilitate the operation of the proposed scheme, the Association of British Chemical Manufacturers, through its Assistant Secretary and Manager, Mr. Murdin Drake, has undertaken to collate records of the total quantities of the various chemicals required, so that the Ministry of Supply may be informed of these requirements.

A form, on which estimated requirements for the six months ending 31st March, 1942, are to be stated, can be obtained from the General Secretary of the Chemical Society. It covers the materials which experience shows are specially in demand, and space is provided for additional items likely to be needed in substantial quantities.

The quantities should be given as nearly as can be estimated and, if these quantities exceed to any appreciable extent the quantities purchased during the corresponding period in 1940–1941, consumers should state the reason for the increased demand. Chemists who do not purchase their own supplies should obtain these particulars from their purchasing organisations, or ensure that the organisations make a comprehensive return.

The information asked for is statistical; it will be regarded as strictly confidential and it will not bind any institution or individual to buy only the estimated quantity. It must be clearly understood that requirements of materials used in the manufacture of any product for sale are not to be included in the estimates.

The operation of this scheme will not in any way modify the procedure which may be in force from time to time under Statutory Rules and Orders relating to the supply and consumption of various chemicals. Usually, however, such Orders relate to quantities much in excess of those required in individual laboratories.

It will greatly assist the operation of the scheme if consumers will state the names of their usual suppliers.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, November 17th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Aikman, Alexander Russell,** Higher Certificate (Oxford and Cambridge). British. 33, Hamilton Street, Carluke. Chemistry Student, Glasgow University.
Signed by : J. W. Cook, T. S. Patterson, C. Buchanan.

Allen, Douglas Geoffrey Glenn, M.A. (Cantab.), A.I.C. British. The Franklin Laboratory, 63/65, Des Voeux Road, Hong Kong. Analyst.
Signed by : J. J. Fox, R. Leslie Collett, B. A. Ellis.

Bavin, Eric Morrison, B.Sc. (Lond.), F.I.C. British. 19, Bonington Road, Mapperley, Nottingham. Pharmacologist.
Signed by : W. Frank Short, D. A. Peak, C. I. Brodrick.

Billingham, Albert, A.I.C., A.C.T.C. (Birm.). British. 55, Moat House Road, Alum Rock, Birmingham. Metallurgist and Chemist.
Signed by : J. Cooper Duff, J. Newton Friend, R. H. Vallance.

Bone, Austin Roy, M.Sc., D.I.C., A.R.C.S., A.I.C. Seven years in industry. British. 8, Ennismore Avenue, Greenford. Research Chemist.
Signed by : E. Lester Smith, F. A. Robinson, A. F. Lerrigs.

Bradley, Alan Ludwig, A.Met. (Sheffield). British. Hazeldene, The Baulk, Worksop. Chief Chemist to Brick and Lime Companies.
Signed by : C. H. Desch, Walter J. Rees, Arthur W. Chapman.

Bradshaw, Geoffrey Gordon, M.Sc. (Leeds), A.I.C. British. 38, Altar Drive, Heaton, Bradford. Chief Chemist.
Signed by : F. M. Rowe, John Barritt, Ralph C. Storey.

Chater, William John Badenoch, B.A.Hons. (Cantab.). British. 13, Lime Grove, Hoole, Chester. Research Chemist.
Signed by : R. G. W. Norrish, F. G. Mann, H. McCombie, F. S. Dainton.

Cunliffe, William, B.Sc. (Lond.), A.I.C. British. 32, Broadmead Road, Woodford Green. Works Chemist.
Signed by : Thomas McLachlan, R. Leslie Collett, A. Krajkeman.

Duggan, Creighton Shane Malet, B.Sc. (Lond.), A.R.C.S., A.I.C. British. 83, South Croxted Road, West Dulwich, S.E. 21. Chemist in Experimental Laboratory.
Signed by : E. R. H. Jones, A. H. Cook, G. A. R. Kon.

Ebbutt, Keith, B.Sc. (Lond.). British. BM/KEB, London, W.C. 1. Analytical Chemist.
Signed by : C. K. Ingold, L. A. Warren, E. D. Hughes.

***Fairchild, Doris Laura,** B.Sc.Hons. (Lond.). English. 347, Bridgeman Street, Bolton.
Signed by : T. S. Moore, M. M. T. Plant, A. R. Murray.

Finn, Cornelius Philip, B.Sc. (Vict.), M.Sc. (Leeds), F.I.C. British. South Dene, South Kirby, nr. Pontefract. Manager of a Coke Oven Company.
Signed by : J. E. Coates, A. L. Roberts, H. J. Hodsman.

***Gilbert, Peter Thomas,** in second year of B.Sc. Special Chemistry Course. British. 44, Norbins Road, Glastonbury. Undergraduate.
Signed by : H. T. S. Britton, L. L. Bircumshaw, R. King.

Green, Brian Michael, M.A. (Cantab.), F.I.C. British. Uplands, North Road, Berkhamsted. Chemist to a Tobacco Company.
Signed by : J. J. Fox, B. A. Ellis, R. Leslie Collett.

Green, George Colman, B.Sc.Hons. (Birm.), F.I.C. British. Warwick Road, Boreham Wood, Elstree. Manager of a Factory.
Signed by : S. R. Carter, R. H. Hopkins, F. W. Pinkard.

***Harding, Gordon Frank.** British. 42, Victoria Road, Summertown, Oxford. Research Student.
Signed by : S. G. P. Plant, W. Baker, L. J. Goldsworthy.

***Haynes, Leonard John,** Inter. B.Sc. (Lond.), Royal Scholarship. British. 66, High Street, Chatham. Student, at the Royal College of Science.
Signed by : H. V. A. Briscoe, H. J. Emeléus, J. N. Sugden.

***Hornby, Constance Elaine,** B.Sc. (Lond.). British. 53, Langley Drive, Wanstead, E. 11. Chemistry Mistress, County School for Girls.
Signed by : T. S. Moore, Millicent M. T. Plant, Elizabeth D. Johnson.

Hornstein, Naftal Anatole, Ph.D. (Berlin.). Russian. KO 4, Du Cane Court, Balham High Street, S.W. 17. Chemist to a Manufacturing firm.
Signed by : C. H. Spiers, A. Harvey, D. Burton.

Jepson, Clarence, M.Sc. (Manc.), F.I.C. British. 25, Derby Road, Urmston, Manchester. Resident Chemist to a Sewage Works.
Signed by : S. E. Melling, C. B. O. Jones, E. H. Sharples.

Kerr, Robert, M.Sc. and Ph.D. (L'pool). British. 52, Princes Gardens, Acton, W. 3. Research Chemist.
Signed by : Ernest S. Hedges, A. E. Bradfield, H. S. Rooke.

Lane, Joseph Henry, B.Sc. (Lond.), F.I.C. English. Thonlewai, Bath Road, Taplow. Analytical and Consulting Chemist.
Signed by : Lewis Eynon, George Taylor, H. E. Cox, C. A. Mitchell.

Lorant, Stephan, Dr. Med. (Budapest), Docent for Clinical Chemistry, University Prague. Czechoslovak. Henderson Hall, Kings College, Cochrane Park, Newcastle-upon-Tyne. Research worker.
Signed by : Wesley Cocker, G. R. Clemo, Richard Raper.

***Luft, Leon Emilian,** Student, Battersea Polytechnic. Polish. 84, Cambridge Street, S.W. 1.
Signed by : J. Kenyon, J. W. Smith, C. W. Davies.

Lumsden, William Watt, F.I.C. British. 21, South Crescent, Ardrossan. Managing Director of a Chemical Company.
Signed by : J. Weir, H. Picton, David Traill.

Malcolm, James McLaren, A.I.C. British. 3, Clunie Road, Glasgow, S.W. 2. Chemist to Food Manufacturers.
Signed by : M. M. J. Sutherland, F. J. Wilson, I. Vance Hopper.

Mann, Harold Hart, D.Sc. (Leeds), M.Sc. (Manc.), F.I.C. British. Husborne Crawley, Bletchley. Chemist in charge.
Signed by : E. J. Russell, F. Tattersfield, S. H. Harper.

***Maton, William Robert Edward,** B.Sc. (Wales). English. Broth Manor, Barmouth. Student at University.
Signed by : J. L. Simonsen, W. Rogie Angus, G. R. Ramage.

***Norris, William Lake.** British. 42, Victoria Road, Oxford. Research Student.
Signed by : S. G. P. Plant, W. Baker, L. J. Goldsworthy.

Powell, Arthur Dudley, M.P.S., F.I.C. British. 64, Parkside, Derby Road, Beeston. Chief Analyst to a Drug Company.
Signed by : Wilfred F. Elvidge, B. A. Bull, Norman H. Law.

Price, Thomas Brychan, B.Sc. (Wales), A.I.C. British. 30, Miskin Road, Dartford. Schoolmaster.
Signed by : G. R. Martin, A. G. Maddock, Chas. A. Ray.

Simmonds, George Herbert, B.Sc.Hons. (Lond.). British. 42, Buxton Road, Erith. Research Chemist.
Signed by : J. Kenyon, A. Houston, J. W. Smith.

Stanley, Herbert Muggleton, M.Sc. and Ph.D. (Birm.). British. Great Burgh, Epsom. Research Chemist.
Signed by : J. Vargas Eyre, E. Horton, J. G. Maltby.

Sylvester, Norman Darby, M.Sc. (Birm.), A.I.C. British. 65, Boileau Road, Ealing, W. 5. Analytical and Research Chemist.
Signed by : E. B. Hughes, W. G. Messenger, P. Bilham.

Thomas, Richard, D.Sc. (Wales), F.I.C. British. Roslyn, Spital Road, Bromborough. Chief Research Chemist.
Signed by : R. F. Hunter, G. P. Gibson, W. J. G. Jones.

Turner, Charles Frederick, F.I.C. British. 1, Minehead Road, Aigburth, Liverpool, 17. Public Analyst.
Signed by : T. P. Hilditch, G. P. Gibson, A. McGookin.

Wilkins, Ernest John. British. 12, Sidney Road, Bedford. Editor of Journal "British Plastics and Moulded Products Trader."
Signed by : James Taylor, N. J. L. Megson, M. G. Church.

Wilson, Thomas Alexander, A.R.T.C. (Glasgow), M.P.S., M.I.Chem.E., F.I.C. British. 58, Prestwick Road, Ayr. Manager of Chemical Works.
Signed by : M. M. J. Sutherland, F. G. Wilson, A. B. Crawford.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Dana, Leo Isadore, B.S. Mass. Institute of Technology, Ph.D. (Harvard). American. E. Park Drive and Woodward Avenue, Tonawanda, New York. Director of Laboratory.
Signed by : Foster Dee Snell.

Erickson, J. L. E., M.A. (Rise Institute), M.Sc., Ph.D. (Harvard). American. Department of Chemistry, Louisiana State University, Baton Rouge, Louisiana, U.S.A. Professor of Chemistry, Louisiana State University.
Signed by : R. P. Linstead.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between September 19th and October 18th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The associating effect of the hydrogen atom. Part IX. The N–H–N bond. Virtual tautomerism of the formazyl compounds." By L. Hunter and C. B. Roberts.

"The azo-group as a chelating group. Part V. Metallic derivatives of arylazo-oximes and of formazyl compounds." By L. Hunter and C. B. Roberts.

"Reaction velocities at low temperatures. Part IV. The ionisation of nitroethane at temperatures between $-32°$ and $+20°$." By R. P. Bell and A. D. Norris.

"Electrolytic reduction of organic compounds. Part IV. Bimolecular products from sorbic acid at a solid and liquid gallium cathode. Analogy with overvoltage." By K. B. WILSON and C. L. WILSON.

"Cleavage of the ethylene linkage by the action of sulphur." By A. SCHONBERG and MISS W. ASKER.

"The identity of Hinsberg's *o*-trithiosulphidobenzoic acid thioanhydride with Smiles and McClelland's dithiobenzoyl." By A. SCHÖNBERG and MISS A. MOSTAFA.

"A chemotherapeutic comparison of the trypanocidal action of some aromatic diamidines." By J. N. ASHLEY, H. J. BARBER, A. J. EWINS, G. NEWBERY, and A. D. H. SELF.

"Carbohydrate sulphuric esters. Part II. The isolation of 3 : 6-anhydromethylhexosides from methylhexopyranoside sulphates." By R. B. DUFF and E. G. V. PERCIVAL.

"Sapogenins. Part XII. The position of the carboxyl group in certain triterpene acids." By P. BILHAM, G. A. R. KON, and W. C. J. ROSS.

"The action of chlorine on aryl thiocarbimides and the reactions of aryl *iso*cyanodichlorides. Part II." By G. M. DYSON and T. HARRINGTON.

"Observations on the absorption spectra of terpenoid compounds. Part I. *iso*Thujone." By A. E. GILLAM and T. F. WEST.

"The effect of molecular environment on the absorption spectra of organic compounds in solution. Part II. αβ-Unsaturated ketones." By L. K. EVANS and A. E. GILLAM.

"Attempts to find new antimalarials. Part XVIII. Derivatives of *m*-phenanthroline." By W. O. KERMACK and W. WEBSTER.

"A note on the rapid determination of copper in its alloys." By P. M. FISK, A. LIBERMAN, and F. F. POLLAK.

"The stable isotopes: An hypothesis of the composition and structure of the nuclei; mass numbers. By H. D. K. DREW.

"Rubber, polyisoprenes, and allied compounds. Part I. The synthesis of low-molecular polyisoprenes of the rubber and squalene types." By E. H. FARMER and D. A. SUTTON.

Note. "The autoxidisability of the alkyl groups in xylene." By E. H. FARMER and E. S. NARRACOTT.

"The course of autoxidation reactions in polyisoprene and allied compounds. Part I. The structure and reactive tendencies of the peroxides of simple olefins." By E. H. FARMER and A. SUNDRALINGAM.

"The course of autoxidation reactions in polyisoprenes and allied compounds. Part II. Hydroperoxidic structure and chain-scission in low-molecular polyisoprenes." By E. H. FARMER and D. A. SUTTON.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

CHALMERS, BRUCE, and QUARRELL, A. G. The physical examination of metals. Vol. II. Electrical methods. London 1941. pp. viii + 280. ill. 20*s*. net. (*Recd.* 16/10/41.)
From the Publishers: Messrs. Edward Arnold & Co.

WATSON, H. B. Modern theories of organic chemistry. 2nd edition. Oxford 1941. pp. viii + 267. ill. 17*s*. 6*d*. net. (*Recd.* 2/10/41.)
From the Author.

II. *By Purchase.*

BARRER, RICHARD M. Diffusion in and through solids. Cambridge 1941. pp. xiv + 464. ill. 30*s*. net. (*Recd.* 16/10/41.)

GLASSTONE, SAMUEL, LAIDLER, KEITH J., and EYRING, HENRY. The theory of rate processes: the kinetics of chemical reactions, viscosity, diffusion and electrochemical phenomena. New York 1941. pp. x + 611. ill. $6. (*Recd.* 16/10/41.)

LYLE, OLIVER. Technology for sugar refinery workers. London 1941. pp. 401. ill. 15*s*. net. (*Recd.* 16/10/41.)

MARSH, J. T. Mercerising. London 1941. pp. xvi + 458. ill. 32*s*. net. (*Recd.* 16/10/41.)

PEARSE, R. W. B., and GAYDON, A. G. The identification of molecular spectra. London 1941. pp. viii + 221. ill. (*Reference.*) 42*s*. net.

WOODMAN, A. G. Food analysis: typical methods and the interpretation of results. 4th edition. New York 1941. pp. xii + 607. ill. $4. (*Recd.* 16/10/41.)

NOLOGY DEPT

JAN 10 1942
DETROIT

November, 1941

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETINGS OUTSIDE LONDON.

DUNDEE.

Monday, January 19th, at 4 p.m.

Lecture on "The Structure of Films," by Dr. W. T. Astbury, F.R.S., to be held in the Chemistry Department, University College.

EDINBURGH.

Wednesday, January 28th, at 7.15 p.m.

Lecture on "Synthetical Investigations in the Natural Resin Field," by Professor R. D. Haworth, D.Sc., Ph.D., Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, to be held in the North British Station Hotel.

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PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT BANGOR, NOVEMBER 7th.

A joint meeting with the Chemical Society of the University College of North Wales, Bangor, was held in the Chemistry Lecture Theatre of the College at 5.15 p.m. on November 7th, 1941, with Mr. D. J. Bennett in the Chair.

Prof. A. R. Todd discussed "The Hemp Drugs," including a description of the hemp plant, and dealt with the chemistry of cannabinol and cannabidiol.

A cordial vote of thanks, proposed by Prof. J. L. Simonsen, seconded by Mr. E. Macdonald, was carried with acclamation.

LECTURE AT CARDIFF, NOVEMBER 1st.

A meeting of the Society was held jointly with the Cardiff Section of the Institute of Chemistry and the Food Group and South Wales Section of the Society of Chemical Industry at 3.15 p.m. on Saturday, November 1st, 1941, in the Physics Lecture Theatre, University College, Cathays Park, Cardiff, with Mr. F. S. Kernick, Chairman of the South Wales Section of the Society of Chemical Industry, in the Chair. Dr. Magnus Pyke delivered a lecture on "The Chemical Determination of Vitamins." With the aid of a number of striking experimental demonstrations, the lecturer showed that the principal vitamins, like most other chemical compounds, were amenable to chemical determination. Valuable details of procedure were described, and stress was laid on the need for employing these readily accessible methods as a means of estimating more adequately the nutritional value of foods.

After an interesting and instructive discussion, in which Messrs. S. Dixon, Williamson, Minor, and Lowe participated, a vote of thanks was proposed by Dr. Amos, seconded by Mr. S. Dixon, and enthusiastically carried. There were 98 persons present.

LECTURE AT EDINBURGH, NOVEMBER 11th.

A joint meeting of the Society with the Edinburgh University Chemical Society and the Edinburgh and East of Scotland sections of the Society of Chemical Industry and the Institute of Chemistry was held at 6.30 p.m., on November 11th, in the Biochemical Lecture Theatre, the University, Teviot Place, with Mr. J. W. Minnis, B.Sc., in the Chair. Professor H. L. Riley, D.Sc., gave a very interesting account of the structure and formation of "amorphous" carbon, with special reference to the graphite crystal lattice. Numerous X-ray photographs enhanced the value of this lecture on "The Crystallisation of Graphite," and after tributes to the lecturer by Dr. C. A. Beevers and Professor James Kendall, F.R.S., a hearty vote of thanks proposed by Mr. A. C. Docherty was carried with enthusiasm.

LECTURE AT GLASGOW, NOVEMBER 7th.

A meeting of the Society, in co-operation with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, was held at 7 p.m. on Friday, November 7th, in the Royal Technical College, with Professor J. W. Cook, F.R.S., in the Chair. Professor T. S. Patterson delivered a lecture entitled "Forty Years of Optical Activity." After referring to the investigations of Professor P. F. Frankland, to whom he was indebted

for his introduction to the subject, the Lecturer showed that tartaric esters exhibit a definite type of temperature-rotation curve which is displaced in a continuous manner by constitutional changes or alterations in solvent or wave-length. The persistence of regularities, especially the accommodation of the data by H. E. Armstrong's " characteristic diagram," suggests that in compounds having more than one asymmetric centre these do not act independently.

A discussion followed, and a vote of thanks, proposed by Dr. T. Ewan, was carried with acclamation.

LECTURE AT LEEDS, OCTOBER 13th.

A meeting of the Leeds Area Local Section was held in the University of Leeds on Monday, October 13th, when Dr. J. Monteath Robertson delivered a lecture entitled " The Analysis of Molecular Structure by X-ray Methods." The Chair was taken by Prof. M. G. Evans, D.Sc. The lecturer indicated the earlier impact of X-ray methods in the elucidation of the atom arrangements in inorganic molecules, and then showed how its application to the known structures of organic chemistry adds precision to the picture and enables bond distances and electron distributions to be accurately mapped out. The subject thus provides an essential link between pure organic chemistry and the more recent advances in theoretical chemistry. Examples of recent analyses were given. An interesting discussion followed, and a cordial vote of thanks to the lecturer, proposed from the Chair, was carried with enthusiasm.

LECTURE AT LIVERPOOL, NOVEMBER 13th.

A meeting of the Society was held in the Muspratt Lecture Theatre of the University at 3 p.m. on November 13th, 1941, when Professor T. P. Hilditch delivered a Lecture entitled " Some Recent Developments in the Experimental Study of Animal Fats." The lecture was devoted mainly to a discussion of the specific characteristics of stearic-rich animal storage fats as represented by those of oxen, sheep, and pigs. Seven such fats (two from a sheep, two from a pig, and three from oxen or cows) have been investigated in detail during the past few years by a procedure in which the fats are first separated into three or more fractions of differing solubility in acetone, each fraction being then separately studied with regard to the proportions of its component acids and of fully-saturated glycerides and tri-C_{18} glycerides which may be present. A comparatively detailed statement of the chief component glycerides of the whole fat is then reached.

The results in question give additional support to the suggestion, previously put forward from the Liverpool laboratory, that in the " stearic-rich " group of animal depot fats the characteristic glyceride structure is the result of hydrogenation of mixed oleo-glycerides pre-formed in the animal. In the group of seven fats under discussion a consistent series is obtained, irrespective of the particular animal concerned, if the fats are arranged in increasing order of stearic acid content. In this series the fats of lowest stearic acid content are richest, for example, in palmitodiolein; and, whilst this mixed glyceride and oleopalmitostearin are the predominating constituents of all the fats, the proportions of oleopalmitostearin and the completely saturated palmitodistearin progressively increase as the proportion of stearic acid in the whole fat is augmented. A similar relationship holds between the relative proportions of oleodipalmitin and dipalmitostearin throughout the group of fats of varying total unsaturation.

Reference was also made to the relative paucity of information as to the component acids of animal fats as compared with that on vegetable fats. Apart from fats of the more common domestic animals, little detailed information over a wide range of animal species is yet available. A small beginning has recently been undertaken in this field by determination of the component fatty acids of a few scattered species, including those of the kangaroo, wild cat, lion, giant panda, bear, and baboon. The data obtained were briefly discussed, and it was shown that on the one hand there were close resemblances in some cases (kangaroo, cat, lion) to the " stearic-rich " domestic animal type and, on the other hand, instances (panda, bear, baboon) in which a common animal fatty acid

was relatively deficient or in which unusually high proportions of certain normally minor component acids were observed. The chief value of these fragmentary results was considered to be the clear indication that study of fats from a much larger number of selected wild species will certainly lead to further generalisation of the relationship of depot fat composition with biological factors.

LECTURE AT MANCHESTER, NOVEMBER 8th.

A joint meeting of the Chemical Society, the Institute of Chemistry, and the Society of Chemical Industry was held at the Chemistry Lecture Theatre, Manchester University, on November 8th, 1941, at 2.15 p.m., when a joint lecture was delivered by Dr. H. Hunter and Mr. T. Howlett, on "Long Molecules." There was an excellent attendance. The lecture was devoted to a survey of the most recent original work on the molecular weight and associated physical properties and constants of such molecules as cellulose, and synthetic resin fibres, and it was illustrated by statistical tables. A lively discussion ensued, and afterwards votes of thanks were given to the lecturers. Sir Robert H. Pickard was in the Chair.

LECTURE AT NOTTINGHAM, NOVEMBER 15th.

The Eighth Hugo Müller Lecture entitled "Some Aspects of Algal Chemistry," by Prof. I. M. Heilbron, was held on November 15th at 3 p.m., under the Chairmanship of Prof. J. Masson Gulland. The Chairman recalled the life and work of Hugo Müller, and expressed the pleasure of all present that Prof. Heilbron had been willing to come to Nottingham to deliver the lecture. The meeting was well attended, and the Society was pleased to welcome the presence of a number of biologists. A vote of thanks proposed by Dr. Short and seconded by Dr. Hunter was received with acclamation.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, November 20th, 1941, at 2.30 p.m.

The President, Dr. W. H. Mills, M.A., Sc.D., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of October 16th, were taken as read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: H. T. Lester, J. H. Wilkinson, H. Meyer, R. F. Nunn, R. G. Mathers, and P. Bilham.

LECTURE.

After a brief introduction, the President called on Dr. W. T. Astbury, F.R.S., to deliver his Lecture entitled "X-Rays and the Stoichiochemistry of the Proteins."

A vote of thanks to the Lecturer, proposed by Dr. J. M. Robertson, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Albert J. Murphy	1901	August 26th, 1940.
Thomas B. Case	1895	November 10th.

The following message has been conveyed by the President to the All Soviet Union Chemical Society:

We, the President, Council and Fellows of the Chemical Society send greetings to you, our Colleagues in the All Soviet Union Chemical Society.

We express our unbounded admiration for your Country's courage and heroic fight against the power and might of the common foe, and our deep sympathy in the suffering and cruelties inflicted on your people by the invader.

Our two Countries stand together in this struggle, and we are confident that, with the united efforts of all those who realise the abyss to which Hitlerism is leading, tyranny will be overthrown and peace and justice prevail.

It is our earnest hope that out of this strife and sacrifice will emerge a new order in which the prostitution of Science to the destruction of mankind will cease and men and women engaged throughout the World in the pursuit of Science will work together in amity for the benefit of the human race.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Dr. M. A. Whiteley for a gift of Vol. V of Thorpe's *Dictionary of Applied Chemistry*, and to Dr. R. Raper and Mr. G. Vivian Davies for gifts of volumes of the publications of the Society.

LIBRARY.

Until January 31st, 1942, the Library is open on weekdays from 10 a.m. to 4 p.m., except on Saturdays when it is entirely closed.

The Library will be closed on Christmas Day and Boxing Day.

FELLOWSHIP.

On November 20th the names of 60 Fellows were removed by the Council under the action of Bye-Law 15, 5 Fellows were reinstated and the following 41 candidates elected Fellows of the Society:

Alexander Russell Aikman.
Douglas Geoffrey Glenn Allen.
Eric Morrison Bavin.
Albert Billingham.
Austin Roy Bone.
Alan Ludwig Bradley.
Geoffrey Gordon Bradshaw.
William John Badenoch Chater.
William Cunliffe.
Leo Isadore Dana.
Creighton Shane Malet Duggan.
Keith Ebbutt.
J. L. E. Erickson.
Doris Laura Fairchild.
Cornelius Philip Finn.
Peter Thomas Gilbert.
Brian Michael Green.
George Colman Green.
Gordon Frank Harding.
Leonard John Haynes.
Constance Elaine Hornby.
Naftal Anatole Hornstein.
Clarence Jepson.
Robert Kerr.
Joseph Henry Lane.
Stephan Lorant.
Leon Emilian Luft.
William Watt Lumsden.
James McLaren Malcolm.
Harold Hart Mann.
William Robert Edward Maton.
William Lake Norris.
Arthur Dudley Powell.
Thomas Brychan Price.
George Herbert Simmonds.
Herbert Muggleton Stanley.
Norman Darby Sylvester.
Richard Thomas.
Charles Frederick Turner.
Ernest John Wilkins.
Thomas Alexander Wilson.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, December 15th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Alexander, Peter, B.Sc. (Lond.). British. 9, Cowcross Street, E.C. 1. Chemist.
Signed by : Gerald R. Shutt, W. Taylor, J. E. Wynfield Rhodes.

***Anstead, Douglas Frederick,** B.Sc. (Lond.). British. 5, Newbolt Avenue, Cheam. Student.
Signed by : C. K. Ingold, E. D. Hughes, Henry Terrey.

Ashworth, Sidney, B.Sc.Tech. (Manc.), A.M.C.T., A.I.C. British. Moss House, Heywood Hall Road, Heywood. Research Chemist.
Signed by : W. Francis, J. Booton, E. L. Dawson.

Baranger, Pierre, D.ès.S. (Paris), Professeur de chimie Ecole Polytechnique Paris. French. Director of "Centre de technologie scientifique et coloniale" of La France Libre.
Signed by : H. N. Rydon, W. A. Waters, S. A. Mumford.

Bremner, Alexander McColl, B.Sc. (Glas.), A.I.C. British. 17, Church Street, Dumbarton. Works Chemist.
Signed by : Mark F. C. Paige, T. S. Stevens, Robert W. G. Preston.

Bunn, Charles William, B.A., B.Sc. (Oxon.). British. Northwich, Cheshire. Research Chemist.
Signed by : L. M. Clark, P. J. Garner, H. C. Raine.

Burnley, Sydney, M.P.S. British. 72, Woodlands Road, Hull. Superintendent Pharmacist (Hospital), late Senior Pharmacist to Park Prewett Hospital, Basingstoke.
Signed by : R. H. Williams, E. E. Connolly, Alban J. Gait.

Clayson, Donald Herbert Frank, M.Sc. (Lond.), A.R.C.S., D.I.C., F.I.C. British. 2, Old Field Close, Stanmore. Supervising Chemist.
Signed by : E. B. Hughes, P. Bilham, G. E. Forstner.

Cole, Reginald Joseph, B.Sc. (Lond.), A.I.C. British. 23, Wentworth Close, Ditton Hill, Surbiton. Experimental Officer.
Signed by : S. Stevens, James M. Wright, G. W. McCrea.

Cousen, Arnold, Ph.D., M.Sc. (Lond.), A.R.C.S., A.I.C., F.S.G.T. British. 427, Prescot Road, St. Helens. Glass Technologist.
Signed by : S. Sugden, C. J. Peddle, A. A. Eldridge.

Dero, Eric, M.Sc.Tech. (Manc.), A.I.C. English. 269, Beacon Road, Loughborough. Chemist.
Signed by : G. Malcolm Dyson, C. Whitworth, W. S. Stevens.

Etheridge, William, B.Sc. (Leeds), A.I.C. British. 37, Baginton Road, Coventry. Research Chemist.
Signed by : Ernest E. Tallis, C. B. O. Jones, H. J. Hodsman.

Faulds, James Michael, Inter B.Sc. (Lond.), 12 years Laboratory experience. British. 37, Parkville Road, Withington, Manchester. 20. Factory Manager and Chief Chemist.
Signed by : Charles Buchanan, Nathan Goldenberg, R. G. Fargher.

Fletcher, George Alexander, B.Sc.Hons. (Vict.), A.I.C. British. 145, Southborough Lane, Bromley. Chief Chemist and Works Manager.
Signed by : G. N. Burkhardt, Colin Campbell, F. Fairbrother.

***Fletcher, William Edmund,** B.Sc. (Lond.). British. 119, Church Road, New Clipstone, Nr. Mansfield. Research student at University College, Nottingham.
Signed by : J. Masson Gulland, John C. Roberts, F. R. Mumford.

Foster, Henry Stennett, F.I.C. British. Teesbridge Hotel, Bowesfield Lane, Stockton-on-Tees. Plant Manager.
Signed by : W. A. Southorn, P. Chorley, A. Shepherdson, D. Brightman.

France, John Walter. English. Fairlands, Valley Road, Thornhill, Dewsbury. Chemical Engineer.
Signed by : J. W. Baker, F. R. Goss, W. A. Wightman.

Francis, Marcus, B.Sc.Hons. and Ph.D. (Manc.), eight years academic research at the Universities of Frankfurt, Berlin, and Paris. Industrial Research experience in England; F.I.C. British. 209, Queens Road, Penkhull, Stoke-on-Trent. Director of Research.
Signed by : G. N. Burkhardt, Colin Campbell, G. B. M. Herbert, F. Fairbrother.

Halton, Philip, M.Sc. (Lond.), Ph.D. (Cantab.), F.I.C. British. Merlewood, Churchill Road, St. Albans. Research Chemist.
Signed by : E. J. Russell, H. Bassett, D. Roy Maxted.

Harris, Walter Sim, Managing Director and General Manager to firm of Manufacturing and Research Chemists. British. 32, Carrwood Road, Wilmslow.
Signed by : D. H. Hey, E. R. H. Jones, A. A. Eldridge, A. H. Cook.

Harrison, William Finnemore, M.Sc. (Birm.), F.I.C. British. 18, Kingscote Road, Croydon. Assistant Chemist, Chiswick Works, London Passenger Transport Board.
Signed by : R. F. Reynolds, R. G. Green, B. A. Middleton.

Hoffert, Wilfred Herman, M.A., B.Sc. (Oxon.), F.I.C. British. 86, North End Road, Golders Green, N.W. 11. Chief Chemist.
Signed by : F. H. Garner, H. Hollings, E. B. Evans.

***Hood, Harold Malcolm,** B.Sc.Hons. (Dun.). British. 55, Highfield Road, Dartford. Research Chemist.
Signed by : G. R. Clemo, Wesley Cocker, Richard Raper.

Howson, Herbert George, B.Sc. (Lond.), F.I.C., F.Inst.Pet. British. 27, College Road North, Blundellsands, Liverpool, 23. Inspector in Alkali Works.
Signed by : T. P. Hilditch, H. C. Applebee, R. R. Butler, A. E. Findley.

Humphriss, Eric Lewis Enoch, Ordinary National Certificate (1925), Higher Ditto (1928), Chemistry, etc. Central Technical College, Liverpool, A.I.C. British. 82, Linkstor Road, Woolton, Liverpool. Chief Chemist and Bacteriologist.
Signed by : John F. Loach, R. A. Morton, T. P. Hilditch.

Jensen, Harold Rupert, M.Sc. (L'pool), F.I.C. British. 27, North Drive, Wallasey. Technologist and Consultant—Foods, drugs.
Signed by : A. McGookin, H. P. Shilston, Wm. Doran.

***Jepson, John Buchan,** Scholar of Sidney Sussex College (Natural Sciences). British. 17, Leyland Road, Nuneaton. Student for Natural Science Tripos (Chemistry, etc.).
Signed by : C. Brown, B. A. Kilby, F. S. Dainton.

***Johnson, Eric Leslie,** B.Sc.Hons. (Leeds). British. 25, Broomfield Crescent, Leeds, 6. Research Student.
Signed by : Frederick M. Rowe, Arnold T. Peters, J. W. Baker, E. G. Parry.

Jones, Frank Raymond, M.C., M.Sc. (Birm.), A.I.C. British. 8, Conway Close, The Chase, Stanmore. Research Chemist.
Signed by : E. B. Hughes, C. H. F. Fuller, G. E. Forstner.

Jones, John Henry, Ph.D. and B.Sc.Hons. (L'pool), A.I.C., Le Blanc Medal, 1922. British. Officer in charge, Northumberland and Durham Coal Survey, Department of Scientific and Industrial Research.
Signed by : Richard Raper, G. R. Clemo, H. L. Riley.

Jones, Richard Arthur, A.C.G.F.C., F.I.C. British. 4, Enstin Road, Eltham, S.E. 9. Chemist.
Signed by : E. Stanley Hiscocks, B. A. Ellis, J. W. Pooley.

***Kaiser, Franz Paul,** 2nd M.B. (Vienna), Inter B.Sc. (Lond.). Austrian. 11, Rawlinson Road, Oxford. Serving in H.M. Forces. In spare time reading for B.Sc. Special (Chemistry) Examination with aid of External Advisory Service and Birkbeck College.
Signed by : Wm. Wardlaw, D. J. G. Ives, F. Barrow.

***Law, Barbara Wharton.** British. Somerville College, Oxford. Undergraduate.
Signed by : S. W. Hawkins, R. Branston Williams, D. M. Hodgkin.

Liegeois, Henri Laurent McDonald (commonly known as H. L. McDonald). Examinations passed in Philosophy, Theology and Canon Law as prescribed by the Archdiocese of Cardiff 1922 to 1926. British. 150, Wainbody Avenue, Coventry. Company Executive; Technical adviser to Messrs. Macdonald & Co., Coventry.
Signed by: W. S. Simpson, J. B. Stocks, F. V. Wells.

Macfarlane, William Wylie, A.I.C. British. Tollcross, Glasgow, E. 2. Biscuit Manufacturer.
Signed by: I. M. Heilbron, W. J. Skilling, J. G. Duncan.

***McOmie, John Frederick William.** Reading for Honours Degree in Chemistry. British. Exeter College, Oxford. Undergraduate at Exeter College.
Signed by: Ronald P. Bell, J. H. Wolfenden, W. Baker.

Matthew, Cynthia Mary, B.Sc. (Lond.). British. 48, Greencroft Gardens, N.W. 6. Works Chemist.
Signed by: Norman A. C. Friend, Allan Domleo, William A. Dickie.

***Maw, George Alexander,** B.Sc.Hons. (Lond.). British. 94, Shirland Road, Maida Hill, W. 9. Research Student.
Signed by: C. K. Ingold, E. D. Hughes, I. Dostrovsky.

Moore, Terence, Certificates for Bacteriology and Chemistry of Foodstuffs. British. 62, Girton Avenue, Kingsbury, N.W. 9. Analytical Food Research Chemist.
Signed by: H. E. Cox, E. B. Anderson, W. R. Maxwell.

Muirhead, George Stanley, (Three years experience of the analysis of dyestuffs and of dyestuff intermediates. Two years experience of plant control producing Rhodamine type, azo and other type colours at the Clayton Aniline Co., Manchester). British. Handside Farm House, Handside Lane, Welwyn Garden City. Works Control Chemist.
Signed by: F. Bergel, G. V. James, A. Cohen.

Parrish, Percy, F.I.C., M.I.Chem.E., M.I.Gas.Eng., F.I.I.A. British. Parkside, 2, Westcombe Park Road, Blackheath, S.E. 3. Manager of Chemical Works.
Signed by: Francis H. Carr, Louis A. Jordan, E. F. Armstrong.

Pearson, Gavin Duffus, B.Sc.Hons. (Aberdeen). British. 160, Skere Street, Aberdeen. Refinery Operator (Chemist).
Signed by: Alex. Findlay, T. H. Reade, R. B. Strathdee.

Rains, Harry Gascoyne, M.Sc., Ph.D. (Sheffield), F.I.C. British. 35, Hillcrest Road, Loughton. Chief Chemist, Messrs. Jenson and Nicholson, Ltd., Stratford, E. 15.
Signed by: F. C. J. Ruzicka, H. W. Keenan, J. O. Cutter.

Robson, Stanley, M.Sc. (Dun.), D.I.C. (Lond.), M.I.Chem.E., M.I.M.M., A.I.C. English. 57, Queen's Court, Bristol, 8. Works Director.
Signed by: A. Sanders, E. B. Maxted, E. L. Hirst.

Roscoe, William Hilton, M.Sc. (Vict.), A.I.C. British. 63, Lakeside Avenue, Gt. Lever, Bolton. Research Chemist.
Signed by: F. C. Wood, G. N. Burkhardt, R. N. Johnson.

Rymill, Frederick Ernest, B.Sc. (Lond.), A.I.C. British. 441, London Road, Appleton, Nr. Warrington. Works Manager and Chemist, Evan's Biological Institute, Runcorn.
Signed by: W. J. C. Dyke, A. E. Findley, R. R. Butler, Leslie V. Cocks, T. P. Hilditch.

Scott, Percy Douglas, M.Sc. (Dun.), A.I.C. British. 1, South View, Fatfield, Co. Durham. Assistant Manager.
Signed by: H. L. Riley, H. E. Blayden, J. Gordon.

Shilling, William Henry, M.Sc. (Lond.), A.I.C. British. 48, Byne Road, Sydenham, S.E. 26. Works Chemist.
Signed by: J. J. Fox, L. P. Walls, R. Leslie Collett.

Smith, Charles George, Ph.D., B.Sc. (Lond.), F.I.C. British. 7, Mayfield Avenue, Woodford Green. Lecturer in Chemistry, South East Essex Technical College.
Signed by: J. J. Fox, R. Leslie Collett, G. Roche Lynch.

*** Reduced Annual Subscriptions.**

Speakman, John Bamber, D.Sc. (Manc.), F.I.C., F.T.I. British. Department of Textile Industries, The University, Leeds, 2. Professor of Textile Industries.
Signed by : Frederick M. Rowe, Norman H. Chamberlain, Frederick Challenger.

Stafford, John, M.Sc. (Manc.), A.I.C. British. 12, Nelson Square, Bolton. Analytical and Consulting Chemist (Metallurgy).
Signed by : G. N. Burkhardt, J. B. M. Herbert, Colin Campbell.

Steel, Peter, B.Sc.Hons. (Lond.), A.I.C. British. 19, Royal Mint Street, E. 1. Analytical and Research Chemist to N. M. Rothschild and Sons.
Signed by : Geoffrey H. Cheesman, H. Houlston Morgan, John Phelps.

Taylor, Norman, B.Sc.Hons. (Manc.), F.I.C., F.A.C.I. English. 380, Collins Street, Melbourne, Australia. Technical Director.
Signed by : J. J. Fox, R. Leslie Collett, J. R. Nicholls.

Waldmeyer, Trevor, B.Sc. (Lond.), A.I.C. British. 37, Woodlands Road, Sittingbourne. Chemist and Manager of a Sewage Works.
Signed by : J. Howard Linday, E. B. R. Prideaux, John C. Roberts.

Williams, William George, B.Sc., Ph.D. (Lond.), A.I.C. British. Woolwich, S.E. 18. Research Chemist.
Signed by : R. C. Farmer, F. Holden, A. Marshall, H. T. S. Britton.

Wilson, Frederick Ernest, B.Sc. (Lond.), A.I.C. British. Caerwent, Nr. Chepstow. Research Chemist.
Signed by : H. N. Read, W. T. H. Williamson, N. M. Cullinane.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Abbott, Walter Edgar, M.Sc. (Lond.), A.R.C.Sc.I., F.I.C. British. c/o Public Works Department, Shanghai Municipal Council, Shanghai. Chief Chemist, Public Works Department, Shanghai Municipal Council.
Signed by : R. Leslie Collett.

Clark, James Frederick, M.Sc. (Lond.), D.I.C., A.R.C.S., F.I.C. British. Analyst's Department, Municipal Offices, Singapore, S.S. Deputy Municipal Analyst.
Signed by : R. Leslie Collett.

Collins, Edward, M.A. (Cantab.), F.I.C. British. Government Laboratory, Le Reduit, Mauritius. Government Chemist, Mauritius.
Signed by : Louis Baissac.

Davis, Samuel Jackson, M.A., Emory University (U.S.A.), A.M. (Harvard), Member of the American Chemical Society. American. Callaway Mills, La Grange, Georgia. Research Chemist.
Signed by : R. P. Linstead.

Dunn, John Short, B.Sc.Hons. (Lond.), B.Sc. (Reading), A.I.C. British. Public Works Department, Kumasi, Gold Coast. Government Chemist.
Signed by : H. Bassett, D. Roy Maxted.

Neiger, Richard, Dr. (Prague), Ingenieur (Technical High School, Prague), Czech. 1, Park Terrace, Maryport. Chief Chemist.
Signed by : Gerald Druce.

PAPERS RECEIVED

List of papers received between October 18th and November 20th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"*Cannabis indica*. Part VIII. Some further analogues of tetrahydrocannabinol." By A. R. TODD, S. WILKINSON, A. D. MACDONALD, and G. WOOLFE.

"The triterpene group. Part IX. On the constitution of brein and maniladiol." By (MISS) I. M. MORICE and J. C. E. SIMPSON.

"Reactions of (+)- and (−)-α-ethyl-γ-methylallyl alcohols and their derivatives." By R. S. AIRS, M. P. BALFE, and J. KENYON.

"The amino-derivatives of pentaerythritol. Part II. The thermal decomposition of the tetrahydrochlorides of tetrakismethylaminomethane and tetrakisdimethylaminomethane." By G. M. GIBSON, J. HARLEY-MASON, A. LITHERLAND, and F. G. MANN.

"The amino-derivatives of pentaerythritol. Part III. The formation and thermal decomposition of some quaternary salts of tetrakisdimethylaminomethane." By G. M. GIBSON and F. G. MANN.

"Preparation of some *p*-alkyl-substituted benzoic acids." By A. ZAKI and H. FAHIM.

"The crotonic acid series. Part II. Nitrogen derivatives of α-phenylcrotonic acid." By M. A. PHILLIPS.

"The constitution of yeast mannan." By W. N. HAWORTH, R. L. HEATH, and S. PEAT.

"The polysaccharide associated with β-amylase." By L. H. FORD and S. PEAT.

"Studies in the diazotisation and nitrosation of amines. Part V. The effect of lowering the dielectric constant of the reaction mixture." By J. C. EARL and N. G. HILLS.

"Studies of seed mucilages. Part II. The seed mucilage of *Plantago arenaria*." By W. A. G. NELSON and E. G. V. PERCIVAL.

"The kinetics of the reaction between copper and iodine in aqueous (KI) solution. Part I." By L. L. BIRCUMSHAW and M. H. EVERDELL.

"Mechanism of aromatic side-chain reactions with special reference to the polar effects of substituents. Part XI. The aldehydecyanohydrin reaction: Evidence for the mesomeric effects of alkyl groups." By J. W. BAKER and MISS M. L. HEMMING.

"Some new organic derivatives of arsenic. The polyarseno-sulphides." By K. J. HAYDEN.

"Some quaternary ammonium salts and their decomposition products." By A. ZAKI and H. FAHIM.

"*o*-Methoxyphenylpropaldehyde and the pyran ring." By A. ZAKI and H. FAHIM.

"Thiazinocyanines. Part I. Carbocyanines containing the 2 : 4-benzthiazine nucleus." By B. BEILENSON and (MISS) F. M. HAMER.

"A method for the accurate analysis of gaseous mixtures." By C. H. BAMFORD and R. R. BALDWIN.

"The melting points of toxicarol and of related compounds." By S. H. HARPER.

"Constitution of the starch synthesised *in vitro* by the agency of potato phosphorylase." By W. N. HAWORTH, R. L. HEATH, and S. PEAT.

"Peroxides derived from η-aldehydo-octoic acid and nonaldehyde: bis-α-hydroxy-ω-carboxyoctyl peroxide and bis-α-hydroxynonyl peroxide." By G. KING.

"2-Iodobenzoquinone and its analogues." By H. H. HODGSON and D. E. NICHOLSON.

"Periodic acid as a test for the constitution of polysaccharides." By V. C. T. BARRY, DILLON, and (MISS) W. MCGETTRICK.

"*Cannabis indica*. Part IX. The isolation of 3′ : 4′ : 5′ : 6′-tetrahydrodibenzopyran derivatives from pulegone-orcinol and pulegone-olivetol condensation products. Synthesis of *d*-tetrahydrocannabinol." By G. LEAF, A. R. TODD, and S. WILKINSON.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

BRITISH DRUG HOUSES, LTD. The B.D.H. book of organic reagents for analytical use. 8th edition. London 1941. pp. x + 155. 3*s*. 6*d*. net. (*Recd*. 20/10/41.)
From the Director.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN. Centenary commemoration, April 15th, 1941. London 1941. pp. 84. ill. (*Reference*.) From the Society.

THORPE, [SIR EDWARD]. Dictionary of applied chemistry. 4th edition. Vol. V. By (the late) SIR JOCELYN FIELD THORPE and M. A. WHITELEY. London 1941. pp. xxiv + 610. ill. (*Reference*.) 70*s*. net.
From Dr. M. A. Whiteley, O.B.E.

II. *By purchase.*

HIGH POLYMERS. Vol. III. High polymeric reactions, their theory and practice. By H. MARK and R. RAFF. Translated from the manuscript by LUISE HARRIS WEISSBERGER and I. P. IRANY. New York 1941. pp. xiv + 476. ill. $6.50. (*Recd*. 18/11/41.)

HILDITCH, T. P. The industrial chemistry of the fats and waxes. 2nd edition. London 1941. pp. xii + 532. 25*s*. net. (*Recd*. 21/10/41.)

JACOBS, MORRIS B. The analytical chemistry of industrial poisons, hazards and solvents. (Chemical analysis, Vol. I.) New York 1941. pp. xviii + 661. ill. $7. (*Recd*. 18/11/41.)

UNITED STATES. *Manufacturing Chemists' Association*. Chemical facts and figures: annual statistics of the American chemical industry. Washington 1940. pp. iii + 219. ill. (*Reference*.) 75*c*.

WOLFE, HERBERT JAY. Printing and Echo inks. 3rd edition. New York 1941. pp. xii + 411. ill. $6. (*Recd*. 6/11/41.)

III. *Pamphlets.*

BRITISH STANDARDS INSTITUTION. B.S. 975: 1941. Density-composition tables for aqueous solutions of nitric acid for use in conjunction with British Standard density hydrometers. pp. 58.

—— B.S. 976: 1941. Density-composition tables for aqueous solutions of hydrochloric acid for use in conjunction with British Standard density hydrometers. pp. 31.

FRÓES ABREU, S. O côco babaçú: e o problema do combustivel. Rio de Janeiro 1940. pp. 94. ill.

GRASS DRIERS' ASSOCIATION. A report by a Committee on carotene estimation. [London 1941.] pp. 20.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND. Chromatographic analysis. By A. H. COOK. London 1941. pp. 36. ill.

—— Lecture on the use of the Spekker photo-electric absorptiometer in metallurgical analysis. By E. J. VAUGHAN. London 1941. pp. 48. ill.

MINISTRY OF AGRICULTURE AND FISHERIES. Bulletin No. 122. Specifications and methods of analysis for tar oil winter washes. London 1941. pp. iv + 22.

TIN RESEARCH INSTITUTE. Publication No. 105. The spectrographic analysis of tin-lead solders. By D. M. SMITH. London 1941. pp. 8.

WOOL INDUSTRIES RESEARCH ASSOCIATION. Animal fibres of industrial importance: their origin and identification. By A. B. WILDMAN. Leeds 1940. pp. 28. ill.

TECHNOLOGY DEPT.

December, 1941

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETING IN LONDON.

Thursday, February 19th, at 2.30 p.m.

Tilden Lecture entitled "Fluorine," by Dr. H. J. Emeléus.

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DETROIT

MEETINGS OUTSIDE LONDON.

DUNDEE.

Monday, January 19th, at 4 p.m.

Lecture on "The Structure of Fibres," by Dr. W. T. Astbury, F.R.S., to be held in the Chemistry Department, University College.

EDINBURGH.

Wednesday, January 28th, at 7.15 p.m.

Lecture on "Synthetical Investigations in the Natural Resin Field," by Professor R. D. Haworth, D.Sc., Ph.D., Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, to be held in the North British Station Hotel.

GLASGOW.

Friday, January 16th, at 5 p.m.

Lecture on "Sesquiterpene Ketones," by Professor J. L. Simonsen, D.Sc., F.R.S., to be held in the Royal Technical College.

Friday, February 20th, at 7.30 p.m.

Tilden Lecture entitled "Fluorine," by Dr. H. J. Emeléus, in the Royal Technical College, to be preceded by the Annual General Meeting of local Fellows at 7 p.m.

SHEFFIELD.

Friday, February 27th, at 5.30 p.m.

Lecture on "The Chemistry of Starch," by Professor E. L. Hirst, F.R.S. Joint meeting with the Sheffield University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT DUNDEE, NOVEMBER 12th.

A meeting of the Chemical Society was held in the Chemistry Department of University College, Dundee, at 5 p.m., on November 12th, with Professor W. F. K. Wynne-Jones in the Chair. Professor H. L. Riley, D.Sc., lectured on the "Crystallisation of Graphite." He gave an interesting account of the structure of "amorphous" carbon, with special reference to the crystal lattice of graphite. The lecture was illustrated by lantern slides, and reproductions of X-ray photographs. A hearty vote of thanks to the Lecturer was proposed by Mr. H. L. Parsons, and carried with acclamation.

LECTURE AT SHEFFIELD, NOVEMBER 21st.

A joint meeting with the Chemical Society of the University of Sheffield was held in the Chemistry Lecture Theatre of the Univerity at 5.30 p.m. on November 21st, 1941, with Professor R. D. Haworth in the Chair, when Professor H. W. Melville, F.R.S., delivered a lecture on "Polymers." The Lecturer showed how macromolecules could be divided into two classes according to their mode of formation, namely of those formed with elimination of small molecules (*e.g.*, water) and of those formed without elimination, in which case some unsaturation must be present in the parent substance. Experimental study of the kinetics of the latter type of process was described and it was concluded that the formation of linear polymers depended on a chain reaction, the active monomer being considered, at least in some instances, to be a diradical. The lecture concluded with a discussion of the more difficult problems presented by the formation of three-dimensional macromolecules.

A cordial vote of thanks to the Lecturer proposed by Dr. A. H. Lamberton and seconded by Mr. R. C. Brian was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATH.

The Council regret to announce the death of Mr. John Dunlop Millen, who was elected in 1905 and died on August 1st, 1941. The sympathy of the Council has been conveyed to the relatives.

CONGRATULATIONS.

The President has conveyed the congratulations of the Council to Professor E. C. C. Baly, and Messrs. C. E. Eastick, W. Thorp, and T. A. Ward, who completed 50 years of Fellowship on December 3rd.

CONTRIBUTIONS.

The thanks of the Council have been conveyed to Dr. F. A. Freeth and Professor D. H. Peacock for contributions to the Publications Fund, and to Mr. C. H. Wright for presenting publications of the Society.

HARRISON MEMORIAL PRIZE.

The Harrison Memorial Prize for 1941 has been awarded to Dr. Henry Norman Rydon.

RESEARCH GRANTS.

The Council have made the following grants from the Research Fund:

	£	s.	d.
Addition to olefins. Miss M. Brewer (University College, London)	10	0	0
The reactivity of certain alkyl halides with special reference to the *neo*pentyl problem. I. Dostrovsky (University College, London)	10	0	0
The chemical kinetics of the interaction of alkyl iodide with sodium *m*-5-xylyloxide in alcoholic solutions. R. L. Kenny (Chelsea Polytechnic)	5	0	0
The preparation of unsaturated hydrocarbons. G. A. Maw (University College, London)...	10	0	0
The spectroscopy of polyatomic molecules. H. W. Thompson (Oxford University)	15	0	0

FELLOWSHIP.

The resignations of 12 Fellows have been accepted, 3 Fellows have been reinstated and the following 62 new Fellows were elected on December 18th:

Walter Edgar Abbott.
Peter Alexander.
Douglas Frederick Anstead.
Sidney Ashworth.
Pierre Baranger.
Alexander McColl Bremner.
Charles William Bunn.
Sydney Burnley.
James Frederick Clark.
Donald Herbert Frank Clayson.
Reginald Joseph Cole.
Edward Collins.
Arnold Cousen.
Samuel Jackson Davis.
John Short Dunn.
William Etheridge.
James Michael Faulds.
George Alexander Fletcher.
William Edmund Fletcher.
Henry Stennett Foster.
John Walter France.
Marcus Francis.
Philip Halton.
Walter Sim Harris.
William Finnemore Harrison.
Wilfred Herman Hoffert.
Harold Malcolm Hood.
Herbert George Howson.
Eric Lewis Enoch Humphriss.
Harold Rupert Jensen.
John Buchan Jepson.
Eric Leslie Johnson.
Frank Raymond Jones.
John Henry Jones.
Richard Arthur Jones.
Franz Paul Kaiser.
Henri Laurent Mcdonald Liegeois.
Barbara Wharton Low.
William Wylie Macfarlane.
John Frederick William McOmie.
Cynthia Mary Matthew.
George Alexander Maw.
Terence Moore.
George Stanley Muirhead.
Richard Neiger.
Percy Parrish.
Gavin Duffus Pearson.
Harry Gascoyne Rains.
Stanley Robson.
William Hilton Roscoe.
Frederick Ernest Rymill.
Percy Douglas Scott.
William Henry Shilling.
Charles George Smith.
John Bamber Speakman.
John Stafford.
Peter Steel.
Norman Taylor.
Eric Vero.
Trevir Waldmeyer.
William George Williams.
Frederick Ernest Wilson.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, January 19th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Bailey, Sidney George William. For past nine years have been Technical Adviser on Sulphonated Oils as applied to the Leather Tanning Industry. British. Station Road, Little Saxham, Suffolk. Technical Adviser.
Signed by: C. H. Spiers, A. D. Mitchell, D. Jordan Lloyd.

***Braude, Ernst Alexander.** Inter Science (Lond.). Stateless (former German). 9 Sussex Place, W. 2. 3rd year Chemistry Student at the Royal College of Science, London.
Signed by : H. V. A. Briscoe, A. A. Eldridge, L. S. Theobald.

Buckley, Gerard Dunstan, A.M.C.T. British. 8, Marston Road, Stretford. Research Chemist.
Signed by : H. A. Piggott, D. A. W. Fairweather, F. Irving.

Caws, Alfred, F.I.C., A.H.W.C. British. Messrs. Begg Sutherland & Co., Ltd., Marhowrah Post Office, Saran District, Bihar. Advisory Chemist.
Signed by : Hugh B. Nisbet, Robert G. M. Dakers, James Sandilands.

Christie, John, F.I.C. British. Harbour Winds, Overland Road, Mumbles. Works Chemist.
Signed by : J. J. Fox, Wm. Cullen, R. Leslie Collett.

Dick, James, A.R.T.C. (Glas.), F.I.C., Member Soc. Chem. Industry. Scotch. Food and Drugs Laboratory, Sussex & John, Ltd., Ottawa, Ontario. Dominion Analyst.
Signed by : A. Linton Davidson, C. H. Robinson, E. W. R. Steacie.

Dickinson, David Thomason, British. 49, Hoole Road, Chester. Pharmaceutical Chemist.
Signed by : Charles Alex Hill, Francis H. Carr, H. L. Gerry.

Dixon, Joseph Keith, M.Sc. (N.Z.), Ph.D. (Lond.), D.I.C., F.I.C. British. Soil Survey Laboratory, 54, Molesworth Street, Wellington, N.Z. Chief Soil Chemist, D.S.I.R.
Signed by : Thomas H. Easterfield, J. J. Fox, Wm. Cullen.

***Duncan, James Francis.** British. Jesus College, Oxford. Student at Oxford University.
Signed by : Ronald P. Bell, D. L. Chapman, J. C. Smith.

Foster, Alexander Graham, B.A., B.Sc. (Oxon.). British. 66, Hawthorne Avenue, Rainham Mark, Gillingham. Acting Head of a Technical College.
Signed by : G. M. Bennett, E. W. McClelland, C. S. Salmon.

Graham, Kenneth Lindley, A.I.C. British. New House Farm, West Huntspill, near Highbridge. Chemist.
Signed by : Walter H. Glover, Wm. Wardlaw, M. Le Pla.

Harrison, John, B.Sc. (Lond.), A.I.C. British. 24, Oakwood Avenue, Southgate, N. 14. Chemist.
Signed by : H. Lambourne, W. Taylor, G. W. McCrea.

Hand, Percy George Terry, F.I.C. British. The Cottage, Piercing Hill, Theydon Bois. Works Chemist.
Signed by : Foster Sproxton, Geoffrey Swann, L. W. Turner.

***Hewitt, Eric John,** B.Sc.Hons. (Lond.). Engaged in Industrial Chemical analysis and special investigation. British. Belmont House, Kidwelly, Carmarthen. Works Chemist.
Signed by : G. M. Bennett, E. B. Maxted, E. W. McClelland.

Hopkinson, Gerald, A.I.C., A.M.C.T. British. West Thurrock, Grays. Works Chemist.
Signed by : A. V. Hussey, A. J. Prince, S. R. Bowden.

Hornby, Clement Denton, M.Sc. (Leeds), A.I.C. British. 7, Fairhaven Road, St. Annes-on-Sea. Technical Adviser.
Signed by : W. Lowson, H. J. Hodsman, R. Leslie Collett.

***Ilett, John David.** English. 62, High Street, Nuneaton. Undergraduate, Cambridge University.
Signed by : B. C. Saunders, N. B. Chapman, C. Brown.

Mackeand, James Crawford, A.I.C. British. 40, Ainsty Avenue, Dringhouses, York. Research Chemist.
Signed by : Harold B. Brown, B. G. McLellan, R. Leslie Collett.

Michie, Arthur Cumming, D.Sc. (Aberd.), F.I.C. British. 12a, Kenside Hill, Newcastle-on-Tyne. Consulting Chemist.
Signed by : F. J. Wilson, G. R. Clemo, F. L. Robinson.

Moggridge, Richard Cayley Giffard, B.A., B.Sc. (Oxon.), Ph.D. (Lond.). British. 8, Blue Bell Lane, Huxton. Research Chemist.
Signed by : C. R. Harington, Rosalind Pitt Rivers, A. Neuberger.

Moon, Francis Eric, Ph.D., M.Sc. (Dun.), A.I.C., National Diploma in Dairying (Honours). British. Department of Hygiene and Dietetics, Royal (Dick) Veterinary College, Edinburgh. Lecturer and Research Chemist.
Signed by : J. J. Fox, Wm. Cullen, F. P. Dunn.

Pepper, Albert Cecil, B.Sc. and Ph.D. (Lond.)., A.I.C. British. 8, Chesterfield Road, Ewell West. Works Chemist.
Signed by: Alexander Duckham, J. S. S. Brame, S. Bowrey.

Saxby, Derrick John, B.Sc. (Lond.), A.I.C., A.C.G.F.C. British. 14, Coppice Walk, Totteridge. Works Chemist.
Signed by : H. Williams, R. W. Morris, B. E. Waye.

Sharp, Frederick Lawrence, A.C.G.F.C., A.I.C. British. The Woodlands, Crescent Road, Crumpsall, Manchester, 8. Research Chemist.
Signed by : M. Barrowcliff, E. H. Rodd, W. A. Sexton, A. D. Ainley.

Still, John Errol, B.Sc. (Lond.). British. 3, Bramcote Drive, Beeston. Microanalyst, University College, Nottingham.
Signed by : John C. Roberts, D. O. Jordan, J. Masson Gulland.

Tunstall, Richard Brian, M.Sc. (Birm.), A.I.C., Assoc.M.Inst.Gas.E. British. Willoughby Lane, N. 17. Chief Assistant Chemist.
Signed by : T. J. Drakeley, R. F. West, D. H. Richardson, H. J. S. King.

Whitehouse, Arthur Arnold Keer, M.A. (Cantab.). English. 83, Westley Road, Acock's Green, Birmingham, 27. Research Chemist.
Signed by : George Dring, H. McCombie, T. T. Jones.

Williams, Edmund Gardner, M.A. (Cantab.), F.I.C. British. 61, Earlsway, Curzon Park, Chester. Assistant to Public Analyst.
Signed by : A. E. Findley, R. R. Butler, Harold Lowe.

***Williams, James Frederick,** Inter B.Sc. (Lond.). British. 12, Dobell Road, Eltham, S.E. 9. Student of Chemistry at the Imperial College.
Signed by : H. V. A. Briscoe, H. J. Emeléus, L. S. Theobald.

Yeoman, Ernest Wickham, M.Sc. (Lond.), A.R.C.S., A.R.S.M., D.I.C., F.I.C. British. 14, Sketty Road, Swansea. Lecturer, Metallurgy Department, Royal School of Mines, London.
Signed by : J. E. Coates, L. E. Hinkel, E. E. Ayling.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Metcalf, Walter Sidney, M.Sc.Hons. (N.Z.). British. Chemistry Department, Otago. University, Dunedin, N.Z. Lecturer in Chemistry.
Signed by : F. G. Soper, S. N. Slater.

Williams, Harry Laverne, B.A. and M.Sc. (Ontario). Three years' research experience. English. Chemistry Building, McGill University, Montreal. Demonstrator and Graduate Student.
Signed by : A. Bruce Macallum.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between November 20th and December 19th, 1941. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Compounds of naphthoic acids with their copper and nickel salts. Copper and nickel sulphinates and their oxidation to sulphonates." By Mrs. W. G. Wright.

"The caoutchol component of natural rubber—A correction." By K. C. Roberts.

"The oxidation of ketohydroxystearic acids in presence of alcoholic alkali." By T. P. Hilditch and H. Plimmer.

"The active principles of leguminous fish-poison plants. Part VI. Robustic acid." By S. H. HARPER.
"The constitution of agar." By W. G. M. JONES and S. PEAT.
"*Cannabis indica*. Part X. The essential oil from Egyptian hashish." By J. L. SIMONSEN and A. R. TODD.
"The absorption spectra of mono-, di-, and tri-chloroamines and some aliphatic derivatives." By W. S. METCALF.
"1 : 3 : 3-Trimethyl-Δ^1-*cyclo*hexene-4-carboxylic acid; its formation from 1-Δ^3-carene-5 : 6-epoxide." By A. R. PENFOLD and J. L. SIMONSEN.
"*meso*Benzanthronecarboxylic acids." By F. C. COPP and J. L. SIMONSEN.
"Observations on the absorption spectra of terpenoid compounds. Part II. Irone." By A. E. GILLAM and T. F. WEST.
"A note on 2-aminoacridine-7-sulphonamide." By E. AARONS and A. ALBERT.
"The action of sodium silicate on manganous salts in solution." By E. A. DANCASTER.
"Anti-bacterial substances allied to sulphanilamide." By T. DEWING, W. H. GRAY, B. C. PLATT, and D. STEPHENSON.
"The condensation of *o*-phenylenediamine with ethyl acetoacetate." By W. A. SEXTON.
"Reactions of benzthiazole derivatives. Part III. The interaction of 1-thiolbenzthiazoles with alcohols." By W. H. DAVIES and W. A. SEXTON.
"The determination of hypophosphites by potassium permanganate." By J. R. POUND.
"Experiments on the synthesis of potential cortical hormone substitutes. Hydroxycarbonyl derivatives of diphenyl ether and related compounds." By J. WALKER.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

BRITISH ALUMINIUM CO., LTD. Analysis of aluminium and its alloys. [2nd edition.] London 1941. pp. 186. ill. (*Recd.* 10/12/41.) From the Director.

SAND, H. J. S. Electrochemistry and electrochemical analysis. Vol. III. Electrical methods applied to titration, moisture determination and p_H measurement. London 1941. pp. x + 118. ill. 5*s*. 6*d*. net. (*Recd.* 11/12/41.)
From the Publishers: Messrs. Blackie & Son.

II. *By Purchase.*

BRANCH, G. E. K., and CALVIN, MELVIN. The theory of organic chemistry: an advanced course. New York 1941. pp. xx + 523. ill. $4. (*Recd.* 18/12/41.)

COLLINGS, GILBEART H. Commercial fertilizers: their sources and use. 3rd edition. Philadelphia 1941. pp. xxii + 480. ill. $4.50. (*Recd.* 18/12/41.)

HUNTRESS, ERNEST HAMLIN, and MULLIKEN, SAMUEL PARSONS. Identification of pure organic compounds. Tables of data on selected compounds of Order I. (Compounds of carbon with hydrogen or with hydrogen and oxygen.) New York 1941. pp. xviii + 691. (*Reference.*) $7.50.

KOLTHOFF, I. M., and LINGANE, J. J. Polarography: polarographic analysis and voltammetry, amperometric titrations. New York 1941. pp. xvi + 510. ill. $6. (*Recd.* 21/11/41.)

MELLAN, IBERT. Organic reagents in inorganic analysis. Philadelphia 1941. pp. xxiv + 682. (*Reference.*) $9.

SACHS, GEORGE, and VAN HORN, KENT R. Practical metallurgy: applied physical metallurgy and the industrial processing of ferrous and non-ferrous metals and alloys. Cleveland, Ohio 1940. pp. x + 567. ill. $5. (*Recd.* 15/12/41.)

III. *Pamphlets.*

BRITISH COMPRESSED AIR SOCIETY. Compressed air terms and standards. Revised edition. London 1941. pp. 62.

BRITISH NON-FERROUS METALS RESEARCH ASSOCIATION. *Research Reports.* RRA 562. Researches on the structures of alloys. By W. HUME-ROTHERY. London 1941. pp. 20. ill.

TECHNOLOGY DEPT.

January, 1942

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETING IN LONDON.

Thursday, February 19th, at 2.30 p.m.

Tilden Lecture entitled "Fluorine," by Dr. H. J. Emeléus.

ANNUAL GENERAL MEETING.

The Annual General Meeting for the election of Officers and Council and other business will be held at Burlington House on Thursday, March 26th, 1942. Further particulars will be announced.

MEETINGS OUTSIDE LONDON.

GLASGOW.

Friday, February 20th, at 7.30 p.m.

Tilden Lecture entitled "Fluorine," by Dr. H. J. Emeléus, in the Royal Technical College, to be preceded by the Annual General Meeting of local Fellows at 7 p.m.

LEEDS.

Tuesday, March 10th, at 5.15 p.m.

Discussion on "The Enzymatic Breakdown of Tryptophan to Indole," to be opened by Dr. H. A. Krebs, Dr. F. C. Happold, and Dr. J. W. Baker. Joint meeting with the Leeds University Chemical Society, to be held in the Physiology Lecture Theatre of the School of Medicine.

LIVERPOOL.

Thursday, March 12th, at 4 p.m.

Lecture on "Some Problems in the Chemistry of Macro-Molecules," by Professor M. G. Evans. Joint meeting with the Liverpool University Chemical Society, to be held in the Muspratt Lecture Theatre of the University.

NORTH WALES.

Friday, March 6th, at 5.15 p.m.

Lecture on "Soaps and Related Colloids," by Mr. C. R. Bury. Joint meeting with the University College of North Wales Chemical Society, to be held in the Chemistry Lecture Theatre of the College.

NOTTINGHAM.

Thursday, March 5th, at 4.30 p.m.

Lecture on "The Propylbenzene Unit in Biosynthesis," by Professor R. D. Haworth, D.Sc., Ph.D. Joint meeting with the University College Physical and Chemical Society, to be held in the Chemistry Lecture Theatre, University College, University Park.

SHEFFIELD.

Friday, February 27th, at 5.30 p.m.

Lecture on "The Chemistry of Starch," by Professor E. L. Hirst, F.R.S. Joint meeting with the Sheffield University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

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MEETINGS OUTSIDE LONDON.

LECTURE AT GLASGOW, JANUARY 16th.

A meeting of the Society, in co-operation with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry, was held at 5 p.m. on Friday, January 16th, in the Royal Technical College, with Professor J. W. Cook, F.R.S., in the Chair. Professor J. L. Simonsen, F.R.S., delivered a lecture entitled "Sesquiterpene Ketones." After emphasising the importance of a knowledge of the structures of *all* plant constituents to an understanding of the problems of plant life, the Lecturer explained the use of the isoprene rule in terpene chemistry. The rule defines the original position of the methyl group eliminated in the dehydrogenation of the sesquiterpene ketone cyperone, and the radical was shown actually to occupy this position. But it was later established that in the case of eremophilone the methyl group is in the other angular position, so that the isoprene rule is not infallible, and some work in the di- and tri-terpene fields may require revision.

A discussion followed, and a vote of thanks, proposed by Dr. J. D. Loudon, was carried with acclamation.

LECTURE AT MANCHESTER, JANUARY 17th.

A joint meeting of the Chemical Society with the Society of Chemical Industry and the Chemical Society of the University of Manchester was held in the Chemistry Lecture Theatre of the University at 2.15 p.m. on January 17th, 1942, with Professor J. Kenner, D.Sc., F.R.S., in the Chair. Professor A. R. Todd, D.Sc., lectured on "The Chemistry of Hashish." After a historical review of the various hemp drugs prepared from *Cannabis sativa*, reference was made to previous work in the field and to the degradative and synthetic work on the physiologically inert hashish constituents cannabinol and cannabidiol. This was followed by a discussion on the nature of the active constituents specially related to the synthetic active tetrahydrocannabinols, and the influence of structure on activity illustrated by reference to many analogues prepared.

In conclusion, the origin of the various hashish components was discussed and a possible scheme of biogenesis, supported by laboratory investigations, was outlined. A cordial vote of thanks to the lecturer, proposed by the Chairman, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
John P. d'Albequerque	1893	December 20th.
Herbert W. L. Barlow	1897	November 8th.
The Earl of Berkeley	1895	October 2nd.
James Bridge	1921	December 11th.
Frederick H. Getman	1899	October 2nd.
Harry Harper	1919	July 20th.
Paul N. Leech	1927	January 14th.
Charles Walker	1890	
Thomas A. Ward	1891	September 18th, 1925.

ACKNOWLEDGMENTS.

The Council have expressed their thanks to Messrs. P. Appleyard and I. Goldrei for contributions to the publications Fund, and to Dr. H. G. Colman for presenting publications of the Society.

LONGSTAFF MEDAL, 1942.

The Council have awarded the Longstaff Medal for 1942 to Professor Hugh Stott Taylor of Princeton University, Princeton, U.S.A.

REPRESENTATION OF THE SOCIETY ON OTHER BODIES.

The following have been appointed by the Council to serve during 1942:

Bristol University Court: Prof. F. G. Donnan.
British National Committee for Chemistry: Dr. C. W. Davies (Senior Secretary), Prof. F. G. Donnan, and Mr. F. P. Dunn (Treasurer).
British Standards Institution: Council of Chemical Division: Dr. J. J. Fox. *Technical Committees:* Co-ordinating the work of the Divisional Councils in regard to any British Standard which may be issued in future for units, conversion factors, fundamental formulæ, values for properties of materials, etc.: Dr. H. J. T. Ellingham. Specifications for Materials and Plant used in Electroplating: Dr. U. R. Evans. Standardisation of Scientific Glassware: Mr. F. R. Ennos. Standards for use in Dairying Chemistry: Mr. Eric Voelcker. Standardisation of Letter Symbols: Dr. C. F. Goodeve.
Bureau of Chemical and Physiological Abstracts: Dr. H. J. T. Ellingham, Prof. C. R. Harington, Dr. G. A. R. Kon, and one of the Hon. Secretaries, with the Treasurer *ex-officio.*
Chemical Council: Dr. C. W. Davies, Mr. F. P. Dunn, Dr. L. H. Lampitt.
City and Guilds of London Institute: The President.
Faraday Society: Colloid Committee: Mr. D. C. Henry.
Joint Library Committee: Prof. A. J. Allmand, Prof. H. Bassett, Dr. O. L. Brady, Prof. C. H. Desch, Mr. M. B. Donald, Dr. H. J. T. Ellingham, Dr. H. J. Emeléus, Dr. C. F. Goodeve, Dr. P. Haas, Prof. C. R. Harington, Dr. T. A. Henry, Dr. E. W. McClelland, Dr. E. E. Turner, and Prof. W. Wardlaw.
Lawes Agricultural Trust: Committee of Management: Dr. E. F. Armstrong.
Royal Society: Joint Standing Committee for Symbols and Abbreviations: Dr. C. W. Davies and Dr. H. J. T. Ellingham.

FELLOWS ON ACTIVE SERVICE.

The Council desire to have a complete record of all Fellows who are on active service with the Navy, Army, or Air Force, and would be glad to receive such particulars as may be permissible as to their rank, unit, etc. These should be sent to the General Secretary.

VACANCIES ON COUNCIL.

The names of the members of Council who retire at the next Annual General Meeting are as follows:

President: Dr. W. H. Mills.

Vice-Presidents who have not filled the office of President: Professor I. M. Heilbron, Dr. J. Kenyon, Professor E. K. Rideal, and Professor S. Sugden.

Elected Ordinary Members of Council:

Constituency I (South-East England), Mr. E. J. Bowen and Dr. H. J. T. Ellingham.
Constituency II (Central and South-West England and South Wales), Professor H. T. S. Britton, Professor J. E. Coates, and Professor E. L. Hirst.
Constituency III (North-West England, North Wales, and the Isle of Man), Professor J. Kenner and Professor A. R. Todd.
Constituency IV (North-East England), Professor H. L. Riley.
Constituency V (Scotland), Professor A. Findlay.

The above are ineligible for election to the same office until after the lapse of one year except Dr. W. H. Mills, who was appointed in September to fill until the next Annual General Meeting the vacancy caused by the death of Professor J. C. Philip.

In December Dr. D. H. Hey retired as an Elected Ordinary Member of Council for Constituency I owing to his change of residence from London to Manchester; this creates an additional vacancy in that Constituency.

NOTICE is hereby given that in accordance with the Bye-Laws the following vacant places in the Council fall due to be filled at the Annual General Meeting to be held in London on Thursday, March 26th, 1942:

President	*One vacancy.*
Vice-Presidents who have not filled the Office of President	*Four vacancies.*
Elected Ordinary Members of Council:	
Constituency I (South-East England)	*Three vacancies.*
" II (Central and South-West England and South Wales) ...	*Three vacancies.*
" III (North-West England, North Wales, and the Isle of Man)	*Two vacancies.*
" IV (North-East England)	*One vacancy.*
" V (Scotland)	*One vacancy.*

In accordance with Bye-Law 23, the Council have nominated Dr. W. H. Mills to the office of President.

FELLOWSHIP.

The resignations of 9 Fellows have been accepted, 4 Fellows have been reinstated, 1 Fellow has been removed, and the following 32 new Fellows have been elected:

Sidney George William Bailey.
Ernst Alexander Braude.
Gerard Dunstan Buckley.
Alfred Caws.
John Christie.
James Dick.
David Thomason Dickinson.
Joseph Keith Dixon.
James Francis Duncan.
Alexander Graham Foster.
Kenneth Lindley Graham.
John Harrison.
Percy George Terry Hand.
Eric John Hewitt.
Gerald Hopkinson.
Clement Denton Hornby.
John David Ilett.
James Crawford Mackeand.
Walter Sidney Metcalf.
Arthur Cumming Michie.
Richard Cayley Giffard Moggridge.
Francis Eric Moon.
Albert Cecil Pepper.
Derrick John Saxby.
Frederick Lawrence Sharp.
John Errol Still.
Richard Brian Tunstall.
Arthur Arnold Keer Whitehouse.
Edmund Gardner Williams.
Harry Laverne Williams.
James Frederick Williams.
Ernest Wickham Yeoman.

GENERAL ANNOUNCEMENT

PROCTER MEMORIAL FELLOWSHIP, 1942.

The Fellowship was founded in 1938 by the International Society of Leather Trades' Chemists to commemorate the services of the late Professor Henry Richardson Procter to the science of leather manufacture.

The value of the Fellowship is approximately £130 per annum, payable in three terminal instalments.

The Fellow, who may be of any nationality, is appointed for one year by the Senate of the University of Leeds on the recommendation of a selection committee. Normally, he should be a graduate in leather chemistry or possess an equivalent qualification of an institution of University status. The Fellow must devote the whole of his time to research on a subject pertaining to the leather or allied industries in the Leather Industries Department of Leeds University.

Further particulars may be obtained from the Registrar, The University, Leeds, 2, England, and applications must reach him not later than March 31st, 1942.

The Fellow will be appointed in July and commence work the following October.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, March 16th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Airs, Raymond Spencer, B.Sc., Ph.D. (Lond.), F.I.C. British. 23, Westways, Stoneleigh Hill, Ewell. Research Chemist.
Signed by : M. P. Balfe, Conmar Robinson, J. H. Bowes.

Atkinson, Denzil Malcolm, B.Sc. (Lond.), A.I.C. British. 347, Green Lanes, Finsbury Park, N. 4. Analytical Chemist.
Signed by : R. W. West, T. J. Drakeley, D. H. Richardson.

Barraclough, Kenneth Charles, B.Sc.Hons. (Lond.), A.I.C. British. 19, Park Avenue, Chapeltown, Sheffield. Metallurgical Research Chemist.
Signed by : W. H. Hatfield, A. H. Dodd, Robert H. Pickard.

Benyon, John Henry, M.Sc. and Ph.D. (Wales), A.I.C. British. 32, Sandileigh Avenue, Withington, Manchester, 20. Senior Research Chemist.
Signed by : D. H. Hey, E. R. H. Jones, G. A. R. Kon.

Birchenough, John, A.I.C., A.M.C.T. British. The Bungalow, Guywood Lane, Romiley, Nr. Stockport. Research Chemist.
Signed by : T. K. Walker, W. Bradley, J. E. Myers, O. Rhys Howell.

Blow, Claude Montague, B.Sc. and Ph.D. (Lond.), A.I.C. British. 30, Park House, Welwyn Garden City. Research Chemist.
Signed by : Frederick Hilton, William T. Chambers, William J. C. Orr.

Boorman, Edward James, B.Sc. and Ph.D. (Lond.), A.R.C.S., A.I.C., D.I.C. British. 21, Romary Rise, Orpington. Analytical and Research Chemist.
Signed by : J. E. Byles, J. R. Nicholls, A. G. Francis, F. R. Ennos.

***Boyes, Albert Edgar.** British. 15, Ramsey Street, Scarborough. Third year student at St. John's College, Cambridge, studying for Part II of Natural Sciences Tripos in Chemistry and intending to take the examination in June, 1942.
Signed by : F. G. Mann, B. C. Saunders, F. Wild.

Boyns, Blendal Mellor, B.Sc. and Ph.D. (Dun.). British. The School of Agriculture, Shambat, Khartoum North, Sudan. Lecturer in Agricultural Chemistry.
Signed by : G. R. Clemo, R. Raper, C. E. Mallen.

Bramley, George Edward Arthur, M.Sc. and Ph.D. (Sheffield), A.I.C. British. Cowley, Oxford. Chief Chemist.
Signed by : E. Gertrude Turner, R. D. Haworth, J. C. Speakman, A. H. Lamberton.

Brewer, Philip Ingram, B.Sc. (Lond.), A.I.C. British. 44, Ivy Road, Stirchley, Birmingham. Analytical Chemist.
Signed by : J. Cooper Duff, R. H. Vallance, J. Newton Friend.

Brislee, Francis Joseph, B.Sc. (Vict.), D.Sc. (L'pool), F.I.C. British. Wayside, Rupert Road, Huyton, Nr. Liverpool. Chief Chemist.
Signed by : J. J. Fox, Robert H. Pickard, R. Leslie Collett.

Broomhead, Cecil Austin, B.Sc.Hons. (Lond.), A.I.C. British. 69, Duxford Road, Great Barr, Birmingham, 22a. Assistant Works Manager.
Signed by : A. W. Nash, F. G. Broughall, R. Leslie Collett.

Brown, Ernest, B.Sc. (Lond.). British. 40, Kenver Avenue, North Finchley, N. 12. Industrial Chemist.
Signed by : John H. Seager, T. J. Drakeley, W. Gerrard, D. H. Richardson, H. J. S. King, F. H. Cotton.

Buckles, Cyril William, B.Sc.Hons. (Lond.), A.I.C. British. 32, Bourne Avenue, Shirley, Southampton. Chief Works Chemist.
Signed by : N. K. Adam, R. W. Watridge, R. Leslie Collett.

Carroll, Arthur, A.I.C., A.M.C.T., M.P.S. British. 9, Central Avenue, Woodheys, Sale. Works Chemist.
Signed by : Hugh C. Freeman, A. M. Maiden, W. P. Ford.

Cock, Kenneth George Arthur, B.Sc. and Ph.D. (Lond.). British. 19, Rodmarton Mews, W. 1. Technical Manager.
Signed by : Arthur J. Ewins, George Newbery, U. G. Shapiro.

Dickinson, Edward John, B.A., B.Sc. (Oxon.), A.I.C. British. Oakdene, Cheapside Lane, Denham, Nr. Uxbridge. Junior Scientific Officer.
Signed by : C. Hurst, D. L. Chapman, Lionel Maddison.

Drew, Raymond Samuel, B.Sc.Hons. (Wales). British. 15, Westbourne Road, Marsh, Huddersfield. Plant Chemist.
Signed by : H. H. Hodgson, H. S. Turner, E. A. C. Crouch.

Dunealfe, Roger. British. 96, Bridge Road East, Welwyn Garden City. President of Association of British Chemical Manufacturers. Deputy Chairman of British Glues and Chemicals Limited.
Signed by : J. Davidson Pratt, Francis H. Carr, R. B. Drew.

Elwes, Eric Vincent, F.I.C. British. 7, Tudor Avenue, Bebington. Research Chemist.
Signed by : J. R. Edisbury, G. P. Gibson, Robert H. Pickard.

Erwood, Francis William Elliston, B.Sc.Hons. (Lond.), A.I.C. British. 17, Sherborne Road, Petts Wood, Orpington. Works Manager and Chemist.
Signed by : C. A. Redfarn, Thomas McLachlan, A. Krajkeman.

Ferguson, James Russell, A.I.C., A.M.I.Chem.E. British. 7, Henderland Road, Bearsden.
Signed by : J. J. Fox, R. Leslie Collett, Robert H. Pickard.

***Gaunt, Barbara Mary,** B.Sc.Hons. (Lond.). British. Chedburgh Rectory, Bury St. Edmund's. Research Chemist.
Signed by : E. E. Turner, M. S. Lesslie, C. H. Bamford.

Geard, Donald Henry, B.Sc. (Lond.), A.I.C., Ph.C. British. 7, Langford Road, Withington, Manchester, 20. Chief Pharmacist, Withington Hospital.
Signed by : Robert H. Pickard, A. E. Gillam, R. Leslie Collett.

Fitzgerald, Edwin Ernest, B.Sc. (Lond.), A.I.C. British. 34, Melville Road, Barnes, S.W. 13. Analytical Chemist.
Signed by : D. G. Pirie, E. B. Hughes, R. Leslie Collett.

Gloyns, Frank Philip, M.Sc. (Lond.), D.I.C., A.I.C. British. Homefield, Pinner Road, Pinner. Works Chemist.
Signed by : A. A. Eldridge, L. S. Theobald, G. A. R. Kon.

***Graham, Walter,** B.Sc.Hons. (Glas.). British. Stirling Road, Dumbuck, By Bowling. Research Student.
Signed by : J. W. Cook, T. S. Stevens, James D. Loudon.

Greenfield, Isidore, B.Sc.Hons. (Lond.), A.I.C. British. 7, Norwood Avenue, Newcastle-on-Tyne, 6. Analytical Chemist.
Signed by : J. J. Fox, Robert H. Pickard, R. Leslie Collett.

***Hall, Dorothy Muriel,** B.Sc. (Lond.). .British. 17, Warren Road, Wanstead, E. 11. Research Student.
Signed by : E. E. Turner, M. S. Lesslie, Margaret M. Jamison.

***Harker, Peter.** British. Dunelm, Church Lane, Lincoln. Radio Maintenance Officer.
Signed by : J. Masson Gulland, F. R. Bradbury, E. B. R. Prideaux, D. O. Jordan, John C. Roberts.

Henshaw, Charles Royston, A.I.C., A.M.C.T. British. 39, Crumpsall Lane, Manchester, 8. Research Chemist.
Signed by : E. Chapman, N. H. Haddock, A. Kershaw.

Heyes, Thomas Francis, M.Sc. (L'pool), A.I.C. English. 33, Waldeck Road, Nottingham. Chief Chemist.
Signed by : J. J. Fox, R. Leslie Collett, Robert H. Pickard.

Holme, Fred, A.M.C.T., A.I.C. British. 2, Porlock Road, Flixton. Research Chemist.
Signed by : F. C. Wood, Archibald J. Hall, R. N. Johnson.

Holt, Paul Frederick, B.Sc., Ph.D. (Lond.), D.I.C., F.I.C. British. Windmill Road, Sunbury-on-Thames. Biochemist.
Signed by : J. J. Fox, Robert H. Pickard, R. Leslie Collett.

Hunter, William, B.Sc. (Lond.), A.I.C. British. 32, Parkside Road, Chaddesden, Nr. Derby. Organic Research Chemist.
Signed by : J. J. Fox, Robert H. Pickard, R. Leslie Collett.

Ivanovszky, Leo, Dip. Ing. (Vienna), F.Inst.Pet., A.M.I.Chem.E. Austrian. 29, Upper Addison Gardens, W. 14. Editor to a firm of Publishers.
Signed by : J. Lewkowitsch, F. Hillier, H. J. Emeléus.

Jackson, James, B.A., B.Sc. (Oxon.), A.I.C. British. 13, Kensington Gardens, Hale, Cheshire. Technical Chemist.
Signed by : J. J. Fox, B. A. Ellis, R. Leslie Collett.

***Jones, David Aubrey,** B.Sc. (Wales), A.I.C. British. 16, Willrose Crescent, Abbey Wood, S.E. 2. Research Chemist.
Signed by : J. E. Coates, L. E. Hinkel, E. E. Ayling.

King, Annie Millicent, B.Sc. and Ph.D. (Bristol). British. 79, St. Michael's Hill, Bristol, 2. Research Assistant.
Signed by : E. L. Hirst, W. E. Garner, J. K. N. Jones.

King, John, F.I.C. British. 22, Upland Road, Sutton. Chemist.
Signed by : G. King, R. Leslie Collett, G. W. Ellis.

Leather, Alfred Norman, B.Sc. (Lond.), F.I.C. British. York Place, Manchester, 13. Analyst.
Signed by : Harri Heap, Lois Dickinson, A. E. Gillam.

Lewis, Walter Probert Glover, M.Sc.Hons. (Wales), A.I.C. British. 70, Waterside, Irvine. Chemist in charge.
Signed by : W. M. Cumming, W. Cule Davies, J. M. C. Thompson, J. J. Gordon.

Linford, John Herbert, M.Sc. (Manitoba). Canadian. H.M. Naval Base, Freetown, Sierra Leone. Scientific Officer.
Signed by : C. F. Goodeve, A. J. Allmand, D. W. G. Style.

Lloyd, Peter, M.A. (Cantab.), F.I.C. British. Farnborough, Hants. Scientific Officer.
Signed by : Fred C. Smith, R. H. Griffith, W. J. Gooderham.

Loasby, John Leslie, A.M.I.E.E., A.I.Mech.E. British. 64, Greenfield Gardens, N.W. 2. Senior Technical Officer and Works Chemist.
Signed by : Harold King, Thomas S. Work, R. B. Bourdillon.

***Long, Leonard Haynes,** B.Sc., Ph.D. (Lond.), A.R.C.S., D.I.C. British. Westmead, The Avenue, Ickenham, Uxbridge. Research Chemist.
Signed by : F. S. Dainton, C. H. Bamford, H. V. A. Briscoe.

***McDowell, Charles Alexander,** B.Sc. (Belfast). British. 8, Thiepval Avenue, Cregagh, Belfast. Senior Assistant in Chemistry at Queen's University.
Signed by : A. W. Stewart, H. Graham, Henry Wren.

***Maclean, James Alistair Ross,** B.Sc. and Ph.D. (Edin.), A.I.C. British. c/o Harper, 12a, Westbourne Square, W. 2. Research Chemist.
Signed by : E. G. V. Percival, Neil Campbell, Francis H. Carr.

Menheneott, Frank Marshall. British. 56, Glenhurst Road, Friern Barnet, N. 12. Chief Chemist.
Signed by : J. O. Cutter, H. W. Keenan, S. H. Bell.

Michael, Stephen Ernest, Ph.D. (Freiburg). British. 48, Tewin Road, Welwyn Garden City. Research Chemist.
Signed by : E. H. Farmer, D. A. Sutton, G. F. Bloomfield.

Mitchell, William, B.Sc. (Lond.), Ph.D. (Edin.), F.I.C. British. Walbrook, 3, Allan Park Loan, Edinburgh, 11. Technical Chemist.
Signed by : Henry E. Watt, Donald C. Wilson, W. F. Martin.

Moore, George, A.M.C.T., A.I.C. British. Holt Town Cleansing Depot, New Viaduct Street, Manchester, 11. Chemist.
Signed by : F. Owen, J. J. Fox, R. Leslie Collett.

***Paget, Roger,** B.Sc. (Lond.). British. Wellcome Club, Dartford. Research Chemist.
Signed by : E. Walton, T. Dewing, H. M. Hood.

***Parvin, Kenneth,** Inter B.Sc. (Lond.). British. 33, Thayer Street, W. 1. Student.
Signed by : H. J. T. Ellingham, H. J. Emeléus, H. V. A. Briscoe.

Paton, Frederic James, Ph.D., B.Sc., A.I.C. British. Dunlop Malayan Estates, Ltd., Batu Anam, Johore. Products Control and Research Officer.
Signed by : H. J. Page, A. Moore, K. S. Pillay.

Peck, Dennis Raymond, B.Sc. (Lond.). British. 65, Edenhall Road, Quinton, Birmingham, 32. Research Chemist.
Signed by : J. Newton Friend, J. Cooper Duff, R. H. Vallance.

Pemberton, Max, B.Sc.Hons. (Manc.). British. 92, New Brook Road, Over Hulton, Bolton. Director and Chemist to Stothert, Ltd.
Signed by : G. N. Burkhardt, Colin Campbell, F. S. Spring.

Pinder, Jack Leake, B.Sc. (Lond.), F.I.C. British. 71, Herga Court, Sudbury Hill. Technical Research Chemist.
Signed by : E. Lester Smith, A. L. Bacharach, F. A. Robinson.

Pinnington, Edward, B.Sc.Hons. (L'pool), A.I.C. British. 11, Oakdale Road, Waterloo, Liverpool, 22. Works Chemist.
Signed by : A. McGookin, Francis W. Kay, R. A. Morton.

Portwood, Walter Ernest, A.M.C.T. English. 33, Beccles Road, Brooklands, Manchester. Biochemist, Hope Hospital, Salford.
Signed by : Alan M. Maiden, G. N. Burkhardt, A. E. Gillam.

Rao, Pulle Annapurna Devi Shrikant, B.Sc. and M.Sc. (Benares), M.Sc. (Birm.), A.I.C. Indian. Chemistry Department, University College of London, Aberystwyth. Research Chemist.
Signed by : H. G. Poole, E. D. Hughes, J. Graham.

Rawson, Valentin Stratford, B.Sc. (Queensland), F.I.C., A.A.C.I., A.S.T.C. British. The Rectory, Eccleston, Nr. Chorley. Head Teacher of Chemistry, Sydney Technical College.
Signed by : J. J. Fox, Robert H. Pickard, R. Leslie Collett.

Ridge, Bertram Pusey, B.Sc.Hons., Ph.D. (Lond.), F.I.C. British. 64, Whitefield Road, Stockton Heath, Warrington. Head of Textile Research and Technical Service Laboratories.
Signed by : J. C. Withers, R. G. Fargher, F. S. H. Head.

***Rowley, Derrick,** B.Sc. (Lond.). English. 31, Pullan Avenue, Eccleshill, Bradford. Research Chemist at Oil Refinery.
Signed by : K. O. A. Michaelis, R. M. Barrer, Ernst Bergmann.

*Salmon, **John Ernest,** B.Sc.Hons. ((Lond.). British. 40, Watersfield Way, Canons Park, Edgware. Chemist.
Signed by : C. K. Ingold, Henry Terrey, I. Dostrovsky.

Smith, Eric Brian Jaffcoat, B.Sc.Hons. (Sydney). British. 1, Rocklands Road, Wollstonecraft, Sydney. Technical Service Officer.
Signed by : B. R. Law, Adrien Albert, J. C. Earl.

Southall, Reginald Bradbury, F.Inst.Pet. British. 15, Cefn Parc, Skewen, Neath. Works Manager.
Signed by : J. E. Coates, L. E. Hinkel, E. E. Ayling.

Spence, John Walker, Ph.C., A.I.C. British. Brompton Hospital, S.W. 3. Hospital Pharmacist.
Signed by : David M. Freeland, R. Leslie Collett, A. T. Parsons, C. E. Barton.

Spooner, Cyril Edward, B.Sc.Hons. and M.Sc.Tech. (Sheffield), A.I.C. British. 133, Queen Victoria Road, Totley Rise, Sheffield. Research Chemist.
Signed by : R. D. Haworth, R. Belcher, Alex H. Lamberton, J. C. Speakman, T. B. Smith.

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Signed by : Samuel B. Bratley, S. Judd Lewis, H. L. Long.

Strafford, Norman, M.Sc. (Lond.), F.I.C. English. 4, Nursery Road, Prestwich, Manchester. Chief Analyst.
Signed by : M. Lapworth, P. Chorley, H. Swann.

*Tatton, **Juston O'Grady,** B.Sc. (Lond.). British. Cambria, North Parade, Aberystwyth. Analytical Chemist.
Signed by : J. F. Hirst, A. T. Horton, F. Holmes.

Thomson, Ronald Hunter, B.Sc.Hons. (Leeds), Dyeing Diploma. British. 20, Kensington Terrace, Leeds, 6. Research Student.
Signed by : Arnold T. Peters, Frederick M. Rowe, E. G. Parry.

Walpole, John Leonard, B.Sc.Hons. (Lond.), A.I.C. British. Watendlath, Cambridge Road, Salisbury. Research Chemist.
Signed by : John T. Stock, W. J. Metcalfe, R. Leslie Collett.

Weiss, Joseph, Dr.Ing. (Vienna), Ph.D. (Lond.). Austrian. King's College, Newcastle-on-Tyne. Lecturer in Chemistry at the University of Durham.
Signed by : G. R. Clemo, H. L. Riley, Wesley Cocker.

Welsh, Bernard George. British. 16, Beaumont Court, Sutton Lane, W. 4. Analytical and Production Chemist.
Signed by : H. V. A. Briscoe, H. J. Emeléus, Austin Lowe.

*Widocks, **David Harold.** British. 94, Park Way, Welwyn Garden City. Junior Works Chemist and Student at Birkbeck College.
Signed by : F. Bergel, A. Cohen, G. V. James.

*Wilkinson, **Robert Foster,** B.Sc. (Lond.), B.Pharm. (Lond.). British. 5, Brynteg Avenue, Bridgend. Research Chemist.
Signed by : Ian M. Barclay, R. M. Barrer, H. I. Stonehill.

Woosey, Harold Edward, B.Sc., Ph.D. (L'pool), A.I.C. British. 62, Crescent Road, Liverpool, 9. Research Chemist.
Signed by : A. McGookin, R. A. Morton, Francis W. Kay.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Ascher, Richard Joachim, D.Ph. (Berlin). German Refugee. 49, Melbury Avenue, Norwood Green, Southall. Managing Director of Works.
Signed by : G. Shaffer.

Landau, Bernhard, D.Ph. (Berlin). German Refugee. 3, Montague Mews West, W. 1. Technical Works Manager.
Signed by : James G. Fife.

Kelley, Maurice Joseph, A.B. (La Salle), M.S. (Fordham). U.S.A. 516 South 56th Street, Philadelphia. Research Chemist.
Signed by : Foster Dee Snell, Donald Price.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between December 19th, 1941, and January 27th, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Cinnolines. Part I. Some new examples." By J. C. E. Simpson and O. Stephenson.
"Equilibria and changes in metal hydroxide sols." By H. Bassett and R. G. Durrant.

"The formation and structure of some organic molecular compounds." By J. WEISS.

"The action of chlorine on aryl thiocarbimides and the reactions of aryl *iso*cyanodichlorides. Part III. The chlorination of α-naphthylthiocarbimide and the structure of the compounds obtained." By C. M. DYSON and T. HARRINGTON.

"Erucic acid. Part I. Oxidation reactions of erucic and brassidic acids." By C. DORÉE and A. C. PEPPER.

"Erucic acid. Part II. The preparation of erucic acid and its oxidation with gaseous oxygen." By C. DORÉE and A. C. PEPPER.

"Chemotherapeutic studies in the acridine series. Part VII. The chloroaminoacridines." By F. R. BRADBURY and W. H. LINNELL.

"The constitution of yeast ribonucleic acid. Part V. Synthesis of yeast adenylic acid." By G. R. BARKER and J. M. GULLAND.

"The constitution of purine nucleosides. Part X. A new synthesis of xanthine and attempted syntheses of xanthine glucosides from glyoxalines." By W. E. ALLSEBROOK, J. M. GULLAND, and L. F. STORY.

"The bromination of 1 : 5-dihydroxy- and 1 : 5-diacetoxy-naphthalene, 5-methoxy-1-naphthol and 1 : 5-dimethoxynaphthalene." By A. H. CARTER, E. RACE, and F. M. ROWE.

"The primary gaseous products of carbonisation." By J. W. COBB, K. BOLTON, J. E. CULLINGWORTH, and B. P. GHOSH.

"An azeotrope of nicotine and water." By D. F. KELLY, Miss M. J. O'CONNOR, and J. REILLY.

"Synthesis of compounds related to mould products. Part I. 2-Formyl-3 : 5-dihydroxybenzoic and 3 : 5-dihydroxyphthalic acid." By J. H. BIRKINSHAW and A. BRACKEN.

"The reaction of 4-chloroquinaldines and of 2-chlorolepidines with ammonia and the preparation of the corresponding phenyl ethers." By O. G. BACKEBERG and J. L. C. MARAIS.

"The mechanism of some reactions of diazonium salts." By WESLEY COCKER and J. WEISS.

"An outline of the mechanism of halogenation, sulphonation, and nitration in the aromatic series." By J. WEISS.

"Tutin. Part I." By S. N. SLATER.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

ASSOCIATION OF CAMPHOR INDUSTRY ENGINEERS IN JAPAN. Literatures on camphor and camphor oil (1900—1939). Tokyo 1940. pp. xii + 442. (*Reference.*) From Dr. N. R. Campbell.

INSTITUTE OF PETROLEUM. Annual Reviews of Petroleum Technology. Vol. VI. Birmingham 1941. pp. iv + 318. ill. (*Reference.*) 11*s.* net. From the Institute.

MERCK & Co. The Merck manual of therapeutics and materia medica. 7th edition. Rahway 1940. pp. x + 1436. (*Reference.*) $2. From Mr. G. W. Merck.

II. *By Purchase.*

BELL, R. P. Acid-base catalysis. Oxford 1941. pp. viii + 211. ill. 12*s.* 6*d.* net. (*Recd.* 23/12/41.)

FINDLAY, ALEXANDER. Practical physical chemistry. 7th edition. London 1941. pp. x + 335. ill. 12*s.* 6*d.* net. (*Recd.* 23/12/41.)

ISELY, DWIGHT. Methods of insect control. 2nd edition. Part I. Minneapolis 1941. pp. ii + 121. $1.50. (*Recd.* 8/1/42.)

MARTINDALE, [W. H.]. The extra pharmacopœia. 22nd edition. Vol. I. London 1941. pp. xl + 1289. (*Reference.*) 27*s.* 6*d.* net.

PALMER, W. G. Experimental physical chemistry. Cambridge 1941. pp. xii + 321. ill. 12*s.* 6*d.* (*Recd.* 23/12/41.)

WAISMAN, HARRY A., and ELVEHJEM, C. A. The vitamin content of meat. Minneapolis 1941. pp. iv + 210. $3. (*Recd.* 8/1/42.)

III. *Pamphlets.*

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH. *Water Pollution Research.* Technical Paper No. 8. The treatment and disposal of waste waters from dairies and milk products factories. London 1941. pp. viii + 125. ill.

TIN RESEARCH INSTITUTE. Publication No. 107. Hot-tinning "difficult" mild steels. By W. E. HOARE and H. PLUMMER. Greenford 1941. pp. 28. ill.

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APR 21 1942
DETROIT

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETING IN LONDON.

Thursday, March 26th, at 12 noon.

The Hundredth and First Annual General Meeting of the Chemical Society will be held at Burlington House on Thursday, March 26th, 1942. *At 12 noon*, the business portion will be held—

(*a*) To receive the Report of Council, together with Statement of Accounts and Balance Sheets for the year ended 31st December, 1941; (*b*) To declare the election of the President, of the Vice-Presidents (who have not filled the office of President), and of the Elected Ordinary Members of Council for Constituencies I (South-East England), II (Central and South-West England, South Wales), III (North-West England, North Wales and the Isle of Man), and IV (North-East England); (*c*) To receive the report of the Scrutators on the ballot for the election of an Elected Ordinary Member of Council for Constituency V (Scotland); (*d*) To appoint Auditors for 1942.

At 12.45 *for* 1 *p.m.*, Luncheon will be held at Stewarts Restaurant (corner of Piccadilly and Old Bond Street), and the price of the luncheon will be Four Shillings and Six Pence (4/6) (not including gratuities).

At 2.30 *p.m.* The award of the Longstaff Medal for 1942 to Professor H. S. Taylor, D.Sc., F.R.S., and the presentation of the Harrison Memorial Prize to Dr. H. N. Rydon. The President, Dr. W. H. Mills, F.R.S., will deliver the Ninth Pedler Lecture entitled "Recent Progress in Stereochemistry."

Thursday, April 16th, at 4.30 p.m.

Sir Joseph J. Thomson Memorial Lecture, by the Right Honourable Lord Rayleigh, J.P., D.L., D.Sc., F.R.S., to be held at the Royal Institution, Albemarle Street, W. 1. The meeting is open to Fellows and their guests; cards of Admission will not be issued.

MEETINGS OUTSIDE LONDON.

LEEDS.

Tuesday, March 10th, at 5.15 p.m.

Discussion on "The Enzymatic Breakdown of Tryptophan to Indole," to be opened by Dr. H. A. Krebs, Dr. F. C. Happold, and Dr. J. W. Baker. Joint meeting with the Leeds University Chemical Society, to be held in the Physiology Lecture Theatre of the School of Medicine.

LIVERPOOL.

Thursday, March 12th, at 4 p.m.

Lecture on "Some Problems in the Chemistry of Macro-Molecules," by Professor M. G. Evans. Joint meeting with the Liverpool University Chemical Society, to be held in the Muspratt Lecture Theatre of the University.

NORTH WALES.

Friday, March 6th, at 5.15 p.m.

Lecture on "Soaps and Related Colloids," by Mr. C. R. Bury. Joint meeting with the University College of North Wales Chemical Society, to be held in the Chemistry Lecture Theatre of the College.

NOTTINGHAM.

Thursday, March 5th, at 4.30 p.m.

Lecture on "The Propylbenzene Unit in Biosynthesis," by Professor R. D. Haworth, D.Sc., Ph.D. Joint meeting with the University College Physical and Chemical Society, to be held in the Chemistry Lecture Theatre, University College, University Park.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETING OUTSIDE LONDON.

LECTURE AT DUNDEE, JANUARY 19th.

A meeting of the Chemical Society was held in the Chemistry Department of University College, Dundee, at 5 p.m. on January 19th, with Professor W. F. K. Wynne-Jones in the Chair, when Dr. W. T. Astbury, F.R.S., delivered a lecture on "The Structure of Fibres." Samples of different types of fibres were shown, and their structure illustrated by means of models, X-ray photographs, and lantern slides. A hearty vote of thanks to the lecturer was proposed by Dr. D. McCall, and carried with acclamation.

LECTURE AT EDINBURGH, JANUARY 28th.

A joint meeting of the Society with the Edinburgh and East of Scotland Sections of the Institute of Chemistry and the Society of Chemical Industry was held at 7.30 p.m. in the North British Station Hotel on January 28th with Dr. Percival in the Chair. Professor R. D. Haworth, D.Sc., Ph.D., F.I.C., lectured to a large and appreciative audience on "Synthetical Investigations in the Natural Resin Field." After a brief introduction the lecturer dealt with the structure of abietic and related resin acids, describing the degradation to retene and the synthesis of this and related compounds. He dealt also with the formation and synthesis of dehydroabietic acid, and indicated the application of the "isoprene theory" to the resin acid group. Professor Haworth then described some of his elegant synthetic work in the lignan group, and emphasised the importance of the occurrence of the six-carbon ring carrying a side-chain of three carbon atoms in this series and in other natural products. In the discussion which followed Dr. Neil Campbell, Dr. W. O. Kermack, and the Chairman took part, and a vote of thanks to the lecturer proposed by Dr. Campbell was received with enthusiasm.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W. 1, on Thursday, February 19th, 1942, at 2.30 p.m.

The President, Dr. W. H. Mills, M.A., Sc.D., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting of November 20th were taken as read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: John B. Jepson, John D. Ilett, L. E. Luft, and Mrs. W. G. Wright.

LECTURE.

After a brief introduction, the President called on Dr. H. J. Emeléus to deliver his **Tilden Lecture** entitled "Fluorine."

A vote of thanks to the Lecturer, proposed by Professor H. V. A. Briscoe, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Edward Arthur Andrews	1888	January 28th.
William Burton	1890	April 3rd, 1941.
Thomas Herbert Norton	1878	December 2nd, 1941.
Oliver Trigger	1881	January 22nd.

CONGRATULATIONS.

The President has conveyed the congratulations of the Council to Messrs. W. J. A. Butterfield, J. Hendrick, J. H. Millar, W. S. Myers, E. J. Parry, G. P. Darnell Smith, and M. W. Travers, who completed 50 years of Fellowship on February 18th.

CONTRIBUTIONS.

The thanks of the Council have been conveyed to Messrs. P. K. Dutt, W. E. Garner, E. Hope, A. E. Moors, W. G. Polack, and G. W. Young for contributions to the Publications Fund, and to Messrs. A. F. Campbell and A. H. Morris for presenting publications of the Society. The Council have also expressed their cordial thanks to Sir Wyndham R. Dunstan, K.C.M.G., F.R.S., for presenting a portrait of himself painted by Colin Forbes.

NOMINATIONS FOR VACANT PLACES ON THE COUNCIL.

The following is the list of the nominations for the new Council:

President. (*One* vacancy.)

DR. W. H. MILLS.*

* Nominated by the Council.

Vice-Presidents who have not filled the Office of President. (*Four* vacancies.)

DR. F. H. CARR.
PROF. A. FINDLAY.
PROF. C. S. GIBSON.
PROF. W. N. HAWORTH.

Elected Ordinary Members of Council.

Constituency I. (South-East England.) (*Three* vacancies.)

DR. D. J. G. IVES. (London.)
DR. F. B. KIPPING. (Cambridge.)
DR. H. W. THOMPSON. (Oxford.)

Constituency II. (Central and South-West England and South Wales.) (*Three* vacancies.)

DR. G. S. HARTLEY. (Winterslow.)
DR. E. B. MAXTED. (Bristol.)
DR. H. B. WATSON. (Cardiff.)

Constituency III. (North-West England, North Wales, and the Isle of Man.) (*Two* vacancies.)

DR. F. FAIRBROTHER. (Manchester.)
DR. E. H. RODD. (Manchester.)

Constituency IV. (North-East England.) (*One* vacancy.)

DR. J. W. BAKER. (Leeds.)

Constituency V. (Scotland.) (*One* vacancy.)

PROF. J. W. COOK. (Glasgow.)
DR. J. D. M. ROSS. (Dundee.)

ELECTION OF SCRUTATORS.

Mr. A. A. Eldridge and Dr. J. W. Smith have been appointed Scrutators to examine the voting papers for Constituency V.

LIBRARY.

The Library copy of Freudenberg's "Stereochemie" has been lost in the post.

If any Fellow could lend a copy to the Library until such time as it can be replaced, his action would be warmly appreciated.

LOCAL REPRESENTATIVE FOR NOTTINGHAM.

The Council have received with regret the resignation of Dr. J. C. Roberts from the office of Local Representative for Nottingham as from the next Annual General Meeting, and have expressed their appreciation of his valuable services. Mr. D. O. Jordan has been appointed to this office.

FELLOWSHIP.

The resignations of five Fellows have been accepted, and the names of 35 Fellows have been removed from the List of Fellows under the action of Bye-Law 15. Two Fellows have been reinstated.

GENERAL ANNOUNCEMENTS

X-RAY ANALYSIS IN INDUSTRY.

The Institute of Physics is arranging a Conference on "X-Ray Analysis in Industry" to be held in Cambridge on April 10th and 11th next. The purpose of the Conference is to promote the interchange of knowledge and experience between those employing X-Ray Analysis (diffraction methods) in their work in different fields and to arrange for further collaboration between physicists, engineers, chemists, and others towards the solution of problems by its methods.

During the Conference the President, Professor Sir Lawrence Bragg, will lecture on "The History and Development of X-Ray Analysis." Further particulars can be obtained from the Secretary of the Institute of Physics. Temporary address: at The University, Reading, Berks.

The presence of Fellows of the Chemical Society will be welcomed.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, March 16th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Allen, James Joseph, A.I.C. British. 558, Nottingham Road, Chaddesden, near Derby. Works Chemist.
Signed by: J. Billing, D. S. M. Davis, R. Leslie Collett.

***Axford, Douglas William Edward,** B.A.Hons. (Cantab.). British. St. Catharine's College, Cambridge. Research Student in Laboratory of Physical Chemistry.
Signed by: F. S. Dainton, C. H. Bamford, A. E. Alexander.

***Bache, Robert Edwin,** B.Sc.Hons. (L'pool). British. 93, Leyfield Road, Liverpool, 12. Assistant Works Chemist.
Signed by: A. McGookin, A. Robertson, T. Backhouse.

Barrett, John, M.A. (Cantab.), A.I.C. British. Station House, Bishop's Stortford. Research Chemist.
Signed by: G. M. Bennett, M. Taylor, H. H. Mann.

Beardall, James Alfred, A.I.C., Ph.C., M.P.S. English. 29, Kenilworth Avenue, Prestwich, Manchester. Analytical and Research Chemist.
Signed by: S. Ernest Melling, A. H. Fennal, Ernest S. Watts.

Brown, Kathleen Fane, A.I.C. British. 11, Meadow Bank, Charltonville, Manchester, 21. Analytical Chemist.
Signed by: R. J. W. Reynolds, T. K. Walker, R. Leslie Collett.

Cole, Horace, B.A. (Cantab.), A.I.C. British. 205, Dentons Green Lane, St. Helens. Research Chemist.
Signed by: Leslie Woods, R. A. Sutton, R. Leslie Collett.

Cooper, Graham Percy, A.I.C. British. 8, Buckingham Place, Brighton, 1. Organic Chemist in Research Laboratory.
Signed by: Gordon E. Watts, D. E. Jarrett, J. J. Fox, Robert H. Pickard.

Cosbie, Arthur James Curtin, B.Sc. (N.U.I.), A.I.C., A.R.C.Sc.I. British. 325, City Road, Manchester, 15. Analytical and Consulting Chemist.
Signed by: J. J. Fox, B. A. Ellis, R. Leslie Collett.

Davis, Walter Rowden, Ph.D., M.Sc. (B'ham), B.Sc. (Lond.). British. c/o 21, St. James's Square, S.W. 1. Research Chemist.
Signed by : R. S. Morrell, F. D. Miles, Denis E. Wheeler.

Dawson, Robert James, A.R.T.C., A.I.C. British. Cattells Grove, Birmingham, 7. Works Chemist.
Signed by : J. J. Fox, B. A. Ellis, R. Leslie Collett.

Fletcher, John Warrington, B.Sc.Hons. (Leeds). British. 48, Greylands Avenue, Norton-on-Tees. Industrial Chemist.
Signed by : John Honeyman, W. E. Allenby, J. Manning.

French, Alfred Thomas, A.I.C. British. 5, Lancaster Avenue, Barking. Industrial Chemist and Analyst.
Signed by : Charles E. Barrs, J. J. Fox, Robert H. Pickard.

Graham, Arthur Leslie, M.P.S. British. 141, Manchester Road, Southport. Retail Pharmacist.
Signed by : H. Humphreys Jones, J. Williamson, H. J. Evans.

***Green, Maurice Berkeley,** B.Sc., A.R.C.S. (Lond.). British. 23, Sutton Hall Road, Heston. Research Chemist.
Signed by : E. R. H. Jones, G. A. R. Kon, E. Walton.

***Greenhalgh, Alan Donald,** B.Sc. (Lond.). British. 21, Bushey Mill Lane, Watford. R.A.F.V.R. (Technical).
Signed by : C. K. Ingold, E. D. Hughes, H. G. Poole.

Harrow, Andrew Nicoll, A.I.C. British. 213, Marwell Avenue, Bearsden. Works Chemist.
Signed by : Stewart Robertson, Hugh Moir, Marjorie Calver.

Jarratt, John Richard, M.Sc. (Lond.), A.I.C. British. 113, Western Boulevard, Nottingham. Manufacturing Chemist.
Signed by : Harold Calam, Bertram Garforth, R. Leslie Collett.

Jellinek, Karl, Ph.D. (Göttingen), Emeritus Professor and Director of the Physico-Chemical Institute, Technical University, Danzig. Free City of Danzig. Buckland, Milton Avenue, Chalfont St. Peter. Writing scientific and philosophical books.
Signed by : J. R. Partington, H. V. A. Briscoe, F. G. Donnan.

Johnston, William, B.Sc. and Ph.D. (Glas.), A.R.T.C., A.I.C. British. 38, Elliot Street, Glasgow, C. 3. Chief Chemist.
Signed by : John R. Campbell, W. J. Skilling, I. Vance Hopper.

Jones, David Gwyn, B.Sc. and Ph.D. (Lond.), D.I.C. British. 12, Fulthorpe Road, Norton, Stockton-on-Tees. Research Chemist.
Signed by : Robert R. Coats, J. G. M. Bremner, Peter W. Reynolds.

Knight, Claude Leonard, B.Sc. (Birm.), A.I.C. British. 13, Branksome Avenue, Bridgwater. Analytical Chemist.
Signed by : Harry Paul, Ernest N. Johnson, Harold Kitchen.

Landells, George, B.Sc.Hons. (Dun.). British. 26, Tween Street, Hebburn. Works Chemist.
Signed by : G. R. Clemo, Wesley Cocker, Richard Raper.

***Lewis, John Bryn,** B.Sc.Hons. (Wales). British. Crymlyn Villa, Llansamlet, Swansea. Works Chemist.
Signed by : J. E. Coates, L. E. Hinkel, E. E. Ayling.

Lile, William John, B.Sc.Hons. and M.Sc. (Lond.). British. 77, Lower Oldfield Park, Bath. Physics Master, The Grammar School, Wellington; at present serving with H.M. Forces.
Signed by : W. E. Garner, M. Taylor, T. Malkin.

Monk, Walter Ronald, considerable practical experience as an analytical and works chemist; Member of the Society of Chemical Industry; Oil and Colour Chemists Association; Institute of Chemists (India). British. Botanic Gardens P.O., Howrah. Works Chemist.
Signed by : J. O. Cutter, Neil R. Fisk, R. Bhattacharya.

***Moses, Robert Harry,** B.Sc.Hons. (Dun.). British. Tenterden, Durham Road, Stockton-on-Tees. Research Assistant.
Signed by : Michael H. M. Arnold, J. G. M. Bremner, Robert R. Coats.

***Partington, Roger Graham,** O and C Higher Cert. (Distinction in Chemistry), Sir Thomas White Scholar, St. John's College, Oxford. British. 81, Barn Hill, Wembley. Scholar.
Signed by : H. W. Thompson, Wm. Wardlaw, J. R. Partington.

Phillips, Cyril Henry John Vezey, B.Sc. (Lond.), F.I.C. British. 8, Thornby Avenue, Solihull, Birmingham. Chief Works Chemist.
Signed by : B. G. McLellan, H. B. Brown, R. Leslie Collett.

Pinder, Albert Reginald, B.Sc.Hons. (Sheffield). British. 194, Springfield Road, Millhouses, Sheffield, 7. Research Chemist.
Signed by : R. D. Haworth, Arthur W. Chapman, Alex. H. Lamberton.

Porter, Stanley Credland, A.I.C., A.R.P.S. British. 102, Christchurch Street, Ipswich. Chief Chemist to Gas Light Company.
Signed by : J. J. Fox, Robert H. Pickard, R. Leslie Collett.

* Reduced Annual Subscriptions.

Rees, Albert Lloyd George, M.Sc. (Melbourne), Ph.D. (Lond.), D.I.C., A.A.C.I., A.I.C. British. Chemistry Department, Imperial College, S.W. 7. Research Chemist.
Signed by : H. J. Emeléus, H. V. A. Briscoe, A. A. Eldridge.

Rowland, Samuel John, B.Sc. and Ph.D. (Reading), A.I.C. British. Shinfield, Reading. Research Chemist.
Signed by : H. D. Kay, J. G. Davis, R. Leslie Collett.

Sear, Raymond Walter, B.Sc. (Lond.). British. 15, Farmway, Alkrington, Middleton. Works Chemist.
Signed by : G. A. Freak, R. S. Cahn, James Allan.

Shepherd, Ernest, B.Sc.Hons. and M.A. (Manc.). British. 33, Beaufort Way, Ewell, Epsom. Lecturer in Science.
Signed by : Colin Campbell, G. N. Burkhardt, Fred Fairbrother.

Simmons, John Gilbert, B.Sc. (Lond.). British. 75, Percy Road, Wrexham. Experimental Assistant.
Signed by : C. K. Ingold, H. G. Poole, Henry Terrey, E. D. Hughes.

Stanley, Robert Holroyd, M.Sc. (Manc.), A.I.C. British. 108, Ayresome Park Road, Linthorpe, Middlesbrough. Research Chemist.
Signed by : J. G. M. Bremner, Peter W. Reynolds, R. Whitehead.

Stirling, Elizabeth Brownsword, B.Sc. (Glas.), A.I.C. British. Beechmount, Ulundi Road, Johnstone. Works Chemist.
Signed by : Jas. Sword, D. N. McArthur, Edward M. Melville.

Threadgold, Hubert, B.Sc. (Lond.), F.I.C. British. 11, Riddlesdale Avenue, Tunbridge Wells. Chief Chemist to Jam Manufacturers.
Signed by : Thos. Macara, C. L. Hinton, L. E. Campbell.

Tweedy, Sidney Keenlyside, B.Sc. (Lond.). British. 7, Manor Street, Jesus Lane, Cambridge. Experimental Officer.
Signed by : J. E. B. Randles, A. S. Nickelson, J. R. Partington.

Wardleworth, James, B.Sc. (Manc.). British. 129, Holmfield Road, North Shore, Blackpool. Research Student at Manchester University.
Signed by : Alex R. Todd, F. S. Spring, A. E. Gillam.

Wiggins, Arthur Charles, B.Sc. (Lond.), A.I.C. British. 59, Kyrle Road, Clapham Common, S.W. 11. S.W. 11. Analytical Chemist.
Signed by : E. B. Hughes, P. Bilham, G. E. Forstner.

Williams, Francis Derek, Assoc.M.C.T., A.I.C. British. 64, Butterbache Road, Huntington, Chester. Chief Works Chemist.
Signed by : J. J. Fox, Robert H. Pickard, R. Leslie Collett.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Kohn, Pavel, D.Sc. (Prague), M.P.S. Czechoslovak. 9, Florence Court, Maida Vale, W. 9. Research Chemist.
Signed by : S. Lorant.

Weygandt, Arthur Scott, B.S. in Ch.E. Case School of Applied Science. Chemical research and administration of chemical research since 1925. U.S.A. 3092, Broadway, Cleveland, Ohio. Director of Experimental Laboratory.
Signed by : Foster Dee Snell.

PAPERS RECEIVED

List of papers received between January 27th and February 19th, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The hydrogen bond and its influence on acid strength and activation energy." By H. O. Jenkins.

"Decomposition reactions of the aromatic diazo-compounds. Part X. Mechanism of the Sandmeyer reaction." By W. A. Waters.

"Reactions of certain thiazoles and iminazoles with picryl chloride and 2 : 4-dinitrochlorobenzene." By J. McLean and G. D. Muir.

"Note on the preparation and properties of *p*-thiolbenzoic acid." By D. Bramley and N. H. Chamberlain.

"The dihydroxystearic acid of castor oil; its constitution and structural relationship to the 9 : 10-dihydroxystearic acid, m. ps. 132° and 95°." By G. King.

"An interpretation of the Sandmeyer reaction. Part II. Some corrections." By H. H. Hodgson, S. Birtwell, and J. Walker.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

ADAM, NEIL KENSINGTON. The physics and chemistry of surfaces. 3rd edition. London 1941. pp. xii + 436. ill. 22*s*. 6*d*. net. (*Recd.* 30/1/42.)
From the Author.

ENDEAVOUR: a quarterly review designed to record the progress of the sciences in the service of mankind. Vol. I, etc. London 1942+. (*Reference.*)
From the Publishers: Imperial Chemical Industries, Ltd.

MERZ, A. Bewertung chemisch gefällter Kreiden nach neuzeitlichen Gesichtspunkten. Dresden 1939. pp. viii + 49. ill. *M*. 6. (*Recd.* 16/1/42.)
From Dr. H. J. Strausz.

II. *By purchase.*

CANADA. *Fisheries Research Board.* The chemistry and technology of marine animal oils with particular reference to those of Canada. Edited by H. N. BROCKLESBY. Ottawa 1941. pp. 442. ill. $3.80. (*Recd.* 9/2/42.)

—— *National Research Council.* Associate Committee on Trail Smelter Smoke. Effect of sulphur dioxide on vegetation. Ottawa 1939. pp. xii + 447. ill. $15. (*Recd.* 19/1/42.)

CHEMICAL ENGINEERS' HANDBOOK. Prepared by a staff of specialists. JOHN H. PERRY, Editor. 2nd edition. New York 1941. pp. xviii + 3029. ill. (*Reference.*) $10.

DOLE, MALCOLM. The glass electrode: methods, applications, and theory. New York 1941. pp. xvi + 332. ill. $4.50. (*Recd.* 9/2/42.)

FIESER, LOUIS F. Experiments in organic chemistry. 2nd edition. New York 1941. pp. xii + 488. ill. $2.80. (*Recd.* 19/1/42.)

MAXFIELD, FREDERICK A., and BENEDICT, R. RALPH. Theory of gaseous conduction and electronics. New York 1941. pp. xiv + 483. ill. $4.50. (*Recd.* 6/2/42.)

SIMONDS, H. R. Industrial plastics. [2nd edition.] New York 1941. pp. xii + 385. ill. $4.50. (*Recd.* 12/2/42.)

SUTERMEISTER, EDWIN. Chemistry of pulp and paper making. 3rd edition. New York 1941. pp. xii + 529. ill. $6.50. (*Recd.* 13/2/42.)

TITANIUM ALLOY MANUFACTURING CO. Titanium and its use in steel. New York 1940. pp. 113. ill. $2. (*Recd.* 19/1/42.)

ECHNOLOGY DEPT.

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March, 1942

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETINGS IN LONDON.

Thursday, April 16th, at 4.30 p.m.

Sir Joseph J. Thomson Memorial Lecture, by the Right Honourable Lord Rayleigh, D.Sc., F.R.S., to be held at the Royal Institution, Albemarle Street, W. 1. The meeting is open to Fellows and their guests; cards of admission will not be issued.

Thursday, May 21st, at 4.30 p.m.

Tilden Lecture, by Professor R. D. Haworth, D.Sc., Ph.D., entitled "The Chemistry of the Lignan Group of Natural Products."

MEETING OUTSIDE LONDON.

BRISTOL.

Thursday, May 14th, at 6.30 p.m.

Tilden Lecture, by Professor R. D. Haworth, D.Sc., Ph.D., entitled "The Chemistry of the Lignan Group of Natural Products," to be held in the Department of Chemistry of the University.

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PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT BANGOR, MARCH 6th.

A joint meeting of the Society with the Chemical Society of the University College of North Wales, Bangor, was held in the Chemistry Lecture Theatre of the College at 5.30 p.m. on March 6th, with Professor J. L. Simonsen in the Chair. Mr. C. R. Bury, M.Sc., B.A., discussed the remarkable properties of soap as a detergent and as a colloid in a most interesting lecture on "Soap and Allied Colloids." A cordial vote of thanks by Mr. J. G. T. Brown, seconded by Mr. W. P. Davies, was enthusiastically carried.

LECTURE AT CARDIFF, FEBRUARY 27th.

A meeting of the Society was held jointly with the Cardiff Section of the Institute of Chemistry and the South Wales Section of the Society of Chemical Industry at 5.30 p.m. on Friday, February 27th, in the Chemistry and Physics Lecture Theatre, University College, Cathays Park, Cardiff, with Mr. S. Dixon in the Chair. Professor H. V. A. Briscoe delivered a lecture on "Chemical Methods of attacking Certain Biological Problems," during which he described his investigations into the effects of inorganic dusts on the grain-weevil.

An interesting discussion followed, in which Messrs. S. Dixon and V. Rawson, and Drs. D. P. Evans, V. R. Sharma, and W. T. H. Williamson participated. A hearty vote of thanks to the lecturer was proposed by Dr. Williamson, seconded by Mr. F. S. Kernick, and enthusiastically carried. There were 68 persons present.

LECTURE AT EDINBURGH, MARCH 6th.

A meeting of the Society was held jointly with the local sections of the Institute of Chemistry and the Society of Chemical Industry at 7.30 p.m. on Friday, March 6th, in the North British Station Hotel; Dr. W. M. Ames in the Chair.

Mr. S. Ellingworth, M.Sc., gave a stimulating lecture on "Chemotherapy" to a large and appreciative audience. The lecturer discussed the chemotherapy of trypanosomiasis, malaria, and bacterial infections, with special reference to the development and mode of action of many synthetic chemotherapeutic agents. Drs. A. E. Cameron, Mitchell, Nisbet, Kermack, and Messrs. Bolton and Dodds participated in the discussion which followed, and the proceedings concluded with the adoption of a vote of thanks proposed by Professor Marrian.

MEETING AT LEEDS, MARCH 10th.

A joint meeting of the Leeds Area Local Section and the University of Leeds Chemical Society was held at the Medical School, Leeds, on Tuesday, March 10th. A discussion on "The Enzymatic Breakdown of Tryptophan to Indole" was opened by Drs. F. C. Happold, H. A. Krebs, and J. W. Baker. During the first session the Chair was taken by Professor M. G. Evans, President of the University Chemical Society: Dr. Happold discussed "The Enzyme System responsible for the Tryptophan–Indole Reaction," Dr. Krebs, "*o*-Aminophenylacetaldehyde as an Intermediate in Bacterial Indole Formation," and Dr. Baker, "Structural Evidence."

After an interval for coffee, the second session, held under the Chairmanship of Professor F. Challenger, was devoted to general discussion. A large number of the 54 members present took part in an interesting interchange of ideas, a more detailed report of which it is hoped to publish elsewhere. The meeting was closed with a cordial vote of thanks to the openers, proposed from the Chair.

LECTURE AT LIVERPOOL, MARCH 12th.

A joint meeting of the Society with the Liverpool University Chemical Society was held in the Muspratt Lecture Theatre of the University on March 12th at 4 p.m., when Professor M. G. Evans delivered a lecture on "Some Problems in the Chemistry of Macro-molecules."

The lecturer discussed the types of motion of long chain molecules and attempts to obtain expressions for the entropy contributions for these various types of motion. These ideas were then applied to some simple equilibrium and rate processes showing, for example, that in the melting of a long-chain solid the complete internal randomness of the molecule was not fully operative in the liquid state. It was shown, however, that the large increase in the possibilities of internal randomness which accomplish the melting of solids of macro-molecules accounts for the shape of the curve of melting point against chain length and for the asymptotic approach of the melting point to a constant value as the chains become longer. Under the application to kinetic problems the lecturer discussed the entropy change which accompanies the formation of the activated complex in a polymerisation step, and reached the conclusion that the steric factor did not increase indefinitely as polymerisation proceeds, but would rapidly reach a constant value as the chain length of the polymer increased. It was also shown that in a depolymerisation reaction occurring entirely in the gas phase or in solution the greatest probability of breakdown is, if all the bonds are of equal strength, in the middle of the polymer molecule, yielding equal fragments. Depolymerisation of a solid polymer, on the other hand, will most probably occur to yield a gaseous monomer.

Lastly, some problems in the field of the activation energy of polymerisation reactions were discussed, chiefly from the point of view of the stabilising influence of resonance energy upon free radical endings and the influence of the resonance energy in the transition state in lowering the activation energy for such reactions.

LECTURE AT NOTTINGHAM, MARCH 5th.

A joint meeting of the Society with the University College Physical and Chemical Society was held in the Chemistry Lecture Theatre, University College, University Park, Nottingham, at 4.30 p.m. on March 5th, with Professor J. Masson Gulland, D.Sc., in the Chair. Professor R. D. Haworth, D.Sc., delivered a lecture on " The Propylbenzene Unit in Biosynthesis." After drawing attention to the very frequent occurrence of the propylbenzene unit in certain naturally occurring compounds, the Lecturer proceeded to a discussion of the analytical and synthetic methods which have been applied to such compounds, and finally greatly interested his audience by speculating on the possible courses of relevant biosyntheses. A vote of thanks proposed by Mr. G. R. Barker, President of the University College, Nottingham, Physical and Chemical Society, was carried with acclamation.

LECTURE AT SHEFFIELD, FEBRUARY 27th.

A joint meeting with the Sheffield University Chemical Society was held in the Chemistry Department of the University at 5.30 p.m. on February 27th, 1942, with Professor R. D. Haworth in the Chair. There was a large attendance, and Professor E. L. Hirst, F.R.S., delivered a lecture on " The Constitution of Starch."

After a general account of earlier data bearing on the structure of starch, the lecturer showed how recent developments had led to an understanding of why the very large starch molecule behaved in certain respects as if constituted of chains each of about twenty-four glucose units, and to the expression of the known facts in a more exact structural picture, and explained the relationship between the synthetic starch recently obtained from glucose phosphate and the main components of natural starch. A vote of thanks proposed by Dr. A. W. Chapman and seconded by Mr. T. Wathen was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The death of Sir William H. Bragg, O.M., F.R.S. (Honorary Fellow), was reported to the Council at their meeting on March 19th. The following resolution was passed and has been conveyed by the President to the members of the family:

> The President, Officers and Council of the Chemical Society learned with profound sorrow at their meeting on 19th March, 1942, of the death of Sir William H. Bragg, O.M., F.R.S., who was elected an Honorary Fellow of the Society on October 17th, 1929.
>
> Sir William Bragg's outstanding researches on the X-Ray Analysis of the Structure of Crystals placed him among the pioneers in physical science. He will ever be remembered, not only as an experimentalist but as a great teacher, and as one whose graciousness and genius for friendship endeared him to all those with whom he came into contact. By his death, Science in this Country, and throughout the world, has suffered an irreparable blow.

The Council mourn the loss of their distinguished Honorary Fellow and desire to express their deep sympathy to Sir Lawrence Bragg and Mrs. Alban Caroe in their sorrow.

The deaths of the following Fellows were also announced:

	Elected.	Died.
Francis B. Arnold	1921	February 23rd, 1941.
Arthur Geake	1918	December 19th, 1941.
Grace C. Leitch	1921	March 12th.
Alexander Lipworth	1928	August, 1941.
Geoffrey Milne	1932	January 16th.
Ernest B. Naylor	1900	January 31st.
George Senter	1903	March 14th.

FELLOWSHIP.

The names of three Fellows have been removed from the List of Fellows under the action of Bye-Law 15; two Fellows have been reinstated and the following 122 new Fellows have been elected:

Raymond Spencer Airs.
James Joseph Allen.
Denzil Malcolm Atkinson.
Douglas William Edward Axford.
Robert Edwin Bache.
Kenneth Charles Barraclough.
John Barrett.
James Alfred Beardall.
John Henry Beynon.
John Birchenough.
Claude Montague Blow.
Edward James Boorman.
Albert Edgar Boyes.
Blendal Mellor Boyns.
George Edward Arthur Bramley.
Philip Ingram Brewer.
Francis Joseph Brislee.
Cecil Austin Broomhead.
Ernest Brown.
Kathleen Fane Brown.
Cyril William Buckles.
Arthur Carroll.
Kenneth George Arthur Cock.
Horace Cole.
Graham Percy Cooper.
Arthur James Curtin Cosbie.
Walter Rowden Davis.
Robert James Dawson.
Edward John Dickinson.
Raymond Samuel Drew.
Roger Duncalfe.
Eric Vincent Elwes.
Francis William Elliston Erwood.
James Russell Ferguson.
Edwin Ernest Fitzgerald.
John Warrington Fletcher.
Alfred Thomas French.
Barbara Mary Gaunt.
Donald Henry Geard.
Frank Philip Gloyns.
Arthur Leslie Graham.
Walter Graham.
Maurice Berkeley Green.
Isidore Greenfield.
Alan Donald Greenhalgh.
Dorothy Muriel Hall.
Peter Harker.
Andrew Nicoll Harrow.
Charles Royston Henshaw.
Thomas Francis Heyes.
Fred Holme.
Paul Frederic Holt.
William Hunter.
James Jackson.
John Richard Jarratt.
William Johnston.
David Aubrey Jones.
David Gwyn Jones.
Anne Millicent King.
Maurice Joseph Kelley.
John King.
Claude Leonard Knight.
George Landells.
Alfred Norman Leather.
John Bryn Lewis.
Walter Probert Glover Lewis.
William John Lile.
John Herbert Linford.
Peter Lloyd.
John Leslie Loasby.
Leonard Haynes Long.
Charles Alexander McDowell.
James Alistair Ross MacLean.
Frank Marshall Menheneott.
Stephen Ernest Michael.
William Mitchell.
Walter Ronald Monk.
George Moore.
Robert Harry Moses.
Roger Paget.
Roger Graham Partington.
Kenneth Parvin.
Frederick James Paton.
Dennis Raymond Peck.
Max Pemberton.
Cyril Henry John Vezey Phillips.
Albert Reginald Pinder.
Jack Leake Pinder.
Edward Pinnington.
Stanley Credland Porter.
Walter Ernest Portwood.
Pulle Annapurna Devi Shrikant Rao.
Valentin Stratford Rawson.
Albert Lloyd George Rees.
Bertram Pusey Ridge.
Samuel John Rowland.
Derrick Rowley.
John Ernest Salmon.
Raymond Walter Sear.
Ernest Shepherd.
John Gilbert Simmons.
Eric Brian Jeffcoat Smith.
Reginald Bradbury Southall.
John Walker Spence.
Cyril Edward Spooner.
Frederick Stanbridge.
Robert Holroyd Stanley.
Elizabeth Brownsword Stirling.
Juston O'Grady Tatton.
Ronald Hunter Thomson.
Norman Strafford.
Hubert Threadgold.
Sidney Keenlyside Tweedy.
John Leonard Walpole.
James Wardleworth.
Bernard George Welsh.
Arthur Scott Weygandt.
David Harold Widocks.
Arthur Charles Wiggins.
Robert Foster Wilkinson.
Francis Derek Williams.
Harold Edward Woosey.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, April 13th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Ackroyd, Gordon Campbell, B.Sc.Hons. (Lond.), A.I.C. British. 2, The Glebe, S.E. 3. Research Chemist. *Signed by:* J. J. Fox, J. G. King, R. Leslie Collett.

Adamson, John Ernest, B.Sc. (Lond.), A.I.C. British. 55, Huntingtower Road, Grantham. Research Chemist. *Signed by:* J. J. Fox, Robert H. Pickard, R. Leslie Collett.

Allan, James MacGregor, B.Sc. (Lond.), A.I.C. British. 21, Glenshiel Road, S.E. 9. Analytical Chemist. *Signed by :* G. White, D. M. Cowan, R. Leslie Collett.

Attwell, Brian Judd, Inter B.Sc. (Lond.), seven years Analytical and Research experience in Chemical Industry. British. 22, Southampton Street, Farnborough, Hants. Works Chemist. *Signed by :* D. J. G. Ives, George W. Ferguson, F. J. Llewellyn.

Barkley, Harry, B.Sc. (L'pool), A.I.C. British. Greenford. Research Chemist. *Signed by :* E. Lester Smith, E. M. Gibbs, R. Leslie Collett.

***Baritrop, John Alfred,** B.A.Hons. (Oxon). British. 9, St. Cross Road, Holywell, Oxford. Engaged in Chemical Research at Dyson Perrins Laboratory, Oxford. *Signed by :* Ronald P. Bell, M. J. S. Dewar, J. C. Smith.

Campbell, Robert. British. 716, Great West Road, Osterley. Chief Chemist and Works Manager to firm of Distillers, Chiswick. *Signed by :* J. Stuart Cook, T. McLachlan, A. Houston, J. W. Smith.

***Chambers, William Edward,** Open Scholarship (Chemistry), Oriel College, Oxford. British. Oriel College, Oxford. Student. *Signed by :* D. Ll. Hammick, L. E. Sutton, G. P. Armstrong.

Crowder, Norman Frederick, Assoc.M.C.T., A.I.C. British. 50, Higher Lane, Lymm. Research Chemist. *Signed by :* F. C. Wood, R. P. Foulds, A. J. Hall.

Cunneen, John Ivan, B.Sc. and Ph.D. (B'ham). British. Hanside Farm House, Hanside Lane, Welwyn Garden City. Research Chemist. *Signed by :* E. H. Farmer, J. Wilson, Frederick Hilton.

Davidson, Wilmot Alvin, M.A.Hons. (Toronto), Canadian. Food and Drug Division, 59, Victoria Street, Toronto. Superintendent of Laboratory. *Signed by :* J. G. Breckenridge, C. H. Robinson, R. R. McLaughlin, A. Linton Davidson.

Edwards, Cyril, B.Sc. (Lond.), F.I.C., Ph.C. British. 45, Stanmore Road, Stevenage. Works Chemist to A. Ibbetson & Co., Gt. North Road, Stevenage. *Signed by :* H. V. A. Briscoe, Robert H. Pickard, R. Leslie Collett.

Gardiner, Sidney David, Inter B.Sc. English. 11, Shirley Road, Addiscombe, Croydon. Analytical Chemist. *Signed by :* H. E. C. Powers, F. L. Allen, Ernest A. Rudge.

Grindle, William George, M.Sc. (Leeds), A.I.C. British. 66, Durban Road, Watford. Analyst. *Signed by :* J. J. Fox, G. E. Bessey, F. M. Lea.

Hamnett, Ernest Norman. English. 11, Spinney Road, Northenden, Manchester. Analytical Chemist. *Signed by :* Harold Heron, R. H. Hopkins, Alex. K. Miller.

Heywood, Mark Mellalieu, F.I.R.I., B. of E. Higher, Organic and Inorganic. English. 259, Staines Road, Twickenham. Chief Works Chemist. *Signed by :* Philip Schidrowitz, Sam S. Pickles, William H. Ballantyne.

Howard, John Leslie, M.Sc. (B'ham), A.I.C. British. 20, Clee Road, Cleethorpes. Senior Chemistry Master at Clee Grammar School, Old Clee, near Grimsby. *Signed by :* M. Stacey, F. Smith, S. R. Carter.

***Huson, Brian Lewis,** Senior Open Scholarship, Oriel College. British. Oriel College, Oxford. Student. *Signed by :* D. Ll. Hammick, L. E. Sutton, S. W. Hawkins.

Lewin, John Buckingham Grey, B.Sc. (Lond.), A.I.C. British. 72, Bromsgrove Road, Redditch. Works Chemist. *Signed by :* C. A. Kloss, Julian L. Baker, R. Leslie Collett.

***Llewelyn, David Arthur Bosworth,** Diploma of Loughborough College, Subsidiary B.Sc. in Chemistry and in Physics, Registered Student of Institute of Chemistry. British. Belgrave Vicarage, Leicester. Chemical Engineer. *Signed by :* C. Whitworth, J. M. Connolly, R. Leslie Collett.

Marriott, John Albert, M.Sc. (Lond.), Ph.D. (Lond.), A.I.C. British. 96, Coventry Road, Market Harborough. Research Chemist. *Signed by :* L. Hunter, A. Hickling, G. Malcolm Dyson.

Marsh, Bert Billington, B.Sc. (Lond.). British. 131, Wigan Road, Westhoughton, Bolton. Analytical Chemist. *Signed by :* T. J. Morrison, T. Heap, J. H. Dickin.

***Morrell, Stanley Herbert,** Second Class Honours in Science Honour Moderations, 1940. British. Christ Church, Oxford. Undergraduate, reading for Honours Degree in Chemistry. *Signed by :* A. S. Russell, E. Hope, J. C. Smith.

Morris, Samuel, A.S.T.C., A.A.C.I. Australian, 12, Gartfern Avenue, Five Dock, N.S.W. Manager, Grosvenor Laboratories Pty., Ltd. *Signed by :* G. F. Birks, J. C. Earl, T. Iredale.

Nellist, George Rippon, A.I.C. British. 28, Malvern Road, Billingham. Chemist. *Signed by :* Michael H. M. Arnold, Robert R. Coats, S. C. Bevan, A. E. J. Vickers.

Osborn, William, B.Sc. and Ph.D. (Leeds). English. 394, Moorside Road, Flixton. Research Chemist. *Signed by :* Frederick M. Rowe, F. R. Goss, H. Burton, Arnold T. Peters, J. W. Baker, E. Rothstein.

Papineau-Couture, Armand, B.A.Hons. (McGill). Canadian. Room 204, 379, Common Street, Montreal. Superintendent of Laboratory. *Signed by :* A. Linton Davidson, Leon Lortie, C. H. Robinson.

Partridge, Maurice William, Ph.D., B.Sc., B.Pharm. (Lond.), Ph.C. British. 47, South Hill Park, Hampstead, N.W. 3. Research Assistant to the British Pharmacopoeia Commission. *Signed by :* J. Masson Gulland, John C. Roberts, F. R. Mumford.

Peters, Raymond Henry, B.Sc. (Lond.). British. 38, Studley Drive, Ilford. Chemist. *Signed by :* D. W. Stammers, A. Davidson, de B. Ashworth, Jas. Buchanan, W. J. Wilson.

Randall, Frank Gordon, B.Sc. (Lond.). British. 1, Arundel Gardens, Goodmayes, Ilford. Chemist. *Signed by :* J. R. Partington, D. C. Jones, H. D. K. Drew.

***Robertson, Andrew John Blackford,** B.A.Hons. (Cantab). British. St. John's College, Cambridge. Research Chemist. *Signed by :* Fredk. S. Dainton, P. Johnson, Erick K. Rideal.

Ryder, Stanley Howarth, B.Sc. (Lond.), A.I.C. British. 5, Jesson Street, West Bromwich. Metallurgical Chemist. *Signed by :* Robert H. Pickard, H. V. A. Briscoe, R. Leslie Collett.

***Sayer, Frederick George,** Inter B.Sc. (Lond.). English. 80, Sunningfields Road, Hendon, N.W. 4. Experimental Chemist. *Signed by :* R. F. West, J. R. Partington, H. D. K. Drew.

Smith, Ernest, City and Guilds Final Exam. in Iron and Steel Manufacture. British. 17, Coquet Street, Jarrow-on-Tyne. Analytical Chemist. *Signed by :* H. L. Riley, S. E. Groves, H. E. Blayden.

Suddaby, Arthur, B.Sc.Hons. (Lond.). British. 60, Melrose Street, Hull. Works Chemist. *Signed by :* C. E. C. Nicholls, E. E. Connolly, H. J. Davis.

***Taylor, Albert,** M.P.S. External Student of London University. British. c/o The Ferns, Seascale. Analytical Chemist. *Signed by :* S. Hornsby, J. D. Johnson, Peter F. Ward.

Timmis, Geoffrey Millward, M.Sc. (Manc.), F.I.C. British. 19, Gib Lane, Blackburn. Chemist. *Signed by :* Paul A. Barrett, W. R. Boon, S. Ellingworth.

Tullis, David High, B.Sc. (St. Andrews), A.R.T.C. (Glas.), A.I.C. British. Box 15, c/o Bapco, Bahrein Island, Persian Gulf. Chemical Engineer (Research and Development). *Signed by :* W. M. Cumming, J. G. Duncan, W. L. Glen.

Wakeford, John Ellis, M.B.E., M.I.Gas.Eng. British. Bloom Street, Salford, 3. Deputy Gas Engineer and Manager. *Signed by :* R. L. Jones, Thomas Fitzpatrick, M. Sinclair Gaskill.

Walker, George William, A.I.C. Scottish. 17, John Street, Dalbeattie. Chemist. *Signed by :* J. J. Fox, Robert H. Pickard, R. Leslie Collett.

Watson, Herbert Arthur, M.Sc. (Manitoba), F.C.I.C. English. Box 4712, Postal Station " B," Magnus and Main Streets, Winnipeg, Manitoba. Superintendent of Food and Drug Laboratories. *Signed by :* M. A. Parker, A. Linton Davidson, C. H. Robinson.

Watson, Mearns Bruce, B.Sc. and Ph.D. (Aberd.). British. 65, Craigton Road, Mannofield, Aberdeen. Assistant Lecturer in Chemistry, Aberdeen University. *Signed by :* Alex. Findlay, T. Harold Reade, R. B. Strathdee.

Wells, Hal, National Certificate in Chemistry, Northern Counties Industrial Chemistry. English. 100, Wellesley Road, Slough. Analytical Chemist. *Signed by :* R. J. Cole, J. Macer Wright, G. W. McCrea.

Willcocks, Reginald Gerald Wallace, B.Sc.Hons (Lond.), A.I.C. British. 17, Oxford Avenue, Heston. Analytical Chemist. *Signed by :* J. Kenyon, C. W. Davies, A. Houston, J. W. Smith.

Winter, Eric Frederick David, B.Sc. (Lond.), A.I.C. British. Greenford. Technical Research Chemist. *Signed by :* E. Lester Smith, E. M. Gibbs, R. Leslie Collett.

Winter, Ernest Roy Sealey, B.Sc.Hons. (Lond.), A.R.C.S. British. 2, Newton Road, Bletchley. Research Chemist. *Signed by :* H. V. A. Briscoe, H. J. Emeléus, R. Leslie Collett.

Wood, James Herbert, A.I.C. British. 1, Walkden Avenue, Mesnes Road, Wigan. Analytical Chemist. *Signed by :* Cecil L. Wilson, G. L. Hammond, A. Cooksey.

Wood, Ronald, M.P.S., trained at Stratford Technical College and the University of Leeds. British. Friern Cottage, Sandy Walk, Bramhope, near Leeds. Analytical Chemist. *Signed by :* J. W. Baker, H. J. Hodsman, H. Burton.

***Wright, Alfred,** Northern Matric, 1936, National Certificate, 1939. British. 28, Culme Road, Liverpool, 12. Metallurgical Chemist. *Signed by :* John V. Loach, A. E. Findley, Donald Atherton, R. R. Butler.

Wright, Winifred Booth, B.A.Hons. (Cantab), A.I.C. British. 30, Castelnau Barnes, S.W. 13. Analytical Chemist. *Signed by :* Charles H. F. Fuller, L. F. Barron, H. W. Christian.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Brown, Harold Probert, Ph.D. (Nebraska). American. Chemistry Department, University of Kansas City, Kansas City, Missouri. Associate Professor of Chemistry (Organic). *Signed by :* Frank C. Whitmore.

Calcott, William Stansfield, Ch.E. (Virginia), Hon. LL.D. (Notre Dame). American. P.O. Box 525, Wilmington, Delaware. Director, Jackson Laboratory. *Signed by :* Foster Dee Snell.

Clark, Robert H., M.A. (Toronto), Ph.D. (Leipzig), F.R.S.C., Professor of Chemistry. British. Department of Chemistry, University of British Columbia, Vancouver, B.C. Head of Department of Chemistry. *Signed by :* I. M. Heilbron.

Edwards, Cyril, B.Sc. (Lond.), F.I.C., Ph.C. British. 45, Stanmore Road, Stevenage. Works Chemist to A. Ibbetson & Co., Gt. North Road, Stevenage. *Signed by :* H. V. A. Briscoe, Robert H. Pickard, R. Leslie Collett.

Elsey, Howard McKee, A.M. and Ph.D. (Stanford), Assistant Professor of Chemistry, University of Kansas, 1918–21; Assoc. Professor 1921–25; Research Chemist, Westinghouse, 1925 to date. American. Ardmore Boulevard, East Pittsburgh, Pa. Consulting Chemist. *Signed by :* Foster Dee Snell.

* Reduced Annual Subscription

Hill, William Henry, B.S.A. (Toronto), M.S.A. (British Columbia), Certified Public Analyst (Dominion of Canada), Registered Chemical Engineer (B.C.). British. Food and Drugs Division, Health Branch, Department of Pensions and National Health, 325, Granville Street, Vancouver, British Columbia. Superintendent of Laboratory. *Signed by :* A. Linton Davidson, C. H. Robinson.

Lancaster, Henry Mill, B.A.Sc. (Toronto), F.C.I.C. British. Food and Drug Laboratories, Sussex and John Sts., Department of Pensions and National Health, Ottawa, Ontario. Chief Dominion Analyst. *Signed by :* A. Linton Davidson, C. H. Robinson.

Mallinckrodt, Edward, A.B., A.M. (Harvard). United States. 3600, North Second Street, St. Louis. Chairman of Board of Chemical Works. *Signed by :* Foster Dee Snell.

Ryder, Stanley Howarth, B.Sc. (Lond.), A.I.C. British. 5, Jesson Street, West Bromwich. Metallurgical Chemist. *Signed by :* Robert H. Pickard, H. V. A. Briscoe, R. Leslie Collett.

Twining, Frederick Edward. American. 2527, Fresno Street, Fresno. Conducting the Twining Laboratories. *Signed by :* Foster De Snell.

PAPERS RECEIVED

List of papers received between February 19th and March 23rd, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal.*)

" The comparative reactivity of the carbonyl groups in the thionaphthenquinones. Part I. A study of the constitution of certain thioindigoid dyes." By J. HARLEY-MASON and F. G. MANN.

" Studies in the Sterol group. Part XLIV. The oxidation of phytosterols with the Oppenauer reagent." By E. R. H. JONES, P. A. WILKINSON, and (in part) R. H. KERLOGUE.

" The self-condensation of acetyl*cyclo*hexene." By E. R. H. JONES and H. P. KOCH.

" Molecular dissymmetry due to symmetrically placed hydrogen and deuterium. Part III. The attempted resolution of 2 : 3 : 5 : 6-tetradeutero-4 : 4′-dibromobenzhydrylamine." By G. R. CLEMO and G. A. SWAN.

" A synthesis of ' heavy ' *dl*-adrenaline." By G. R. CLEMO and G. A. SWAN.

" Rare-earth metal amalgams. Part I. The reaction between sodium amalgam and rare-earth acetate and chloride solutions." By J. K. MARSH.

" The magnitude of the solvent effect in dipole-moment measurements. Part V. The solvent effect constant and the moments of alkyl iodides." By A. AUDSLEY and F. R. GOSS.

" The synthesis of 2-methylpyrrolizidine." By G. R. CLEMO and T. A. MELROSE.

" The Graebe–Ullman synthesis of carbazole derivatives. Preparation and synthesis of 1-nitrocarbazole." By R. W. G. PRESTON, S. H. TUCKER, and (in part) J. M. L. CAMERON.

" The preparation of 1-substituted carbazoles." By N. CAMPBELL and J. A. R. MACLEAN.

" The coupling of *m*-halogenophenols with diazotised aniline and the existence of chromoisomerism among the 3-halogeno-4-benzeneazophenols." By H. H. HODGSON and G. TURNER.

" Some reactions of the diazonium salts of certain arylazo-β-naphthylamines." By H. H. HODGSON and C. K. FOSTER.

" Adsorbed films of gases on solids and their resemblance to surface films on water." By S. J. GREGG.

" Long-chain acids containing a quaternary carbon atom. Part I." By A. J. BIRCH and SIR ROBERT ROBINSON.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

BRITISH PLASTICS YEAR BOOK, 1942. The handbook and guide to the plastics industry. Bedford 1942. pp. 464. ill. (*Reference.*) 15*s.* net.
From the Publishers : Plastics Press, Ltd.

JOURNAL OF INDUSTRIAL HYGIENE AND TOXICOLOGY. Vol. XXII. Baltimore 1940. From the Association of British Chemical Manufacturers.

II. *By Purchase.*

AMERICAN ASSOCIATION OF CEREAL CHEMISTS. Cereal laboratory methods, with reference tables. 4th edition. Lincoln, Nebraska 1941. pp. xii + 264. ill. $2.50. (*Recd.* 27/2/41.)

BADGER, W. L., and BAKER, E. M. Inorganic chemical technology. 2nd edition. New York 1941. pp. xii + 237. ill. $2.50. (*Recd.* 25/2/42.)

BERKMAN, SOPHIA, and EGLOFF, GUSTAV. Emulsions and foams. New York 1941. pp. viii + 591. ill. $8.50. (*Recd.* 10/3/42.)

BRIDGMAN, P. W. The nature of thermodynamics. Cambridge, Mass. 1941. pp. xii + 229. $3.50. (*Recd.* 3/3/42.)

CLAPPERTON, ROBERT HENDERSON, and HENDERSON, WILLIAM. Modern paper-making. Oxford 1941. pp. xii + 376. ill. 18*s.* 6*d.* net. (*Recd.* 19/2/42.)

FITZPATRICK, FREDERICK L. The control of organisms. New York 1940. pp. xiv + 334. ill. $2.75. (*Recd.* 27/2/42.)

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

MEETING IN LONDON.

Thursday, May 21st, at 4.30 p.m.

Tilden Lecture, by Professor R. D. Haworth, D.Sc., Ph.D., entitled "The Chemistry of the Lignan Group of Natural Products."

MEETING OUTSIDE LONDON.

BRISTOL.

Thursday, May 14th, at 7 p.m.

Tilden Lecture, by Professor R. D. Haworth, D.Sc., Ph.D., entitled "The Chemistry of the Lignan Group of Natural Products," to be held in the Department of Chemistry of the University.

LEEDS.

Tuesday, May 12th, at 7 p.m.

Eighth Pedler Lecture, by Dr. W. H. Mills, M.A., F.R.S., entitled "Recent Progress in Stereochemistry," to be held in the Chemistry Department of the University.

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PROCEEDINGS

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CHEMICAL SOCIETY.

MEETINGS OUTSIDE LONDON.

LECTURE AT CARDIFF, MARCH 27th.

A meeting of the Society was held jointly with the local sections of the Institute of Chemistry and Society of Chemical Industry in the University College, Cardiff, at 6.45 p.m. on Friday, March 27th, 1942, Mr. F. KERNICK, Chairman of the South Wales Section of the Society of Chemical Industry, in the Chair.

Mr. L. T. LOWE, of the Usk Agricultural Institute, delivered a lecture on "The Chemistry of Soils," in which he paid particular attention to the classification of soils. The lecture was followed with great interest, and gave rise to a lively discussion in which Drs. D. P. Evans and J. F. J. Dippy, and Messrs. H. F. Adams, F. Bird, and P. H. Griffiths took part. A vote of thanks was proposed by Mr. F. Bird, seconded by Mr. D. Hicks, and enthusiastically carried. There were 48 persons present.

LECTURE AT MANCHESTER, MARCH 21st.

A joint meeting of the Chemical Society and the Institute of Chemistry was held at Manchester University on Saturday, March 21st, 1942, at 2.15 p.m., when Dr. J. M. Robertson read a paper on the application of *X*-ray diffraction methods to problems of molecular structure.

Electron and *X*-ray deflection methods were contrasted as regards the type of information which they yield about structures of atomic dimensions. The *X*-ray diffraction method as applied to crystalline materials was then discussed in more detail, with special reference to organic structures. Illustrations of recent results were given in the form of contour maps of electron density distribution. The results obtained from such work were compared with the theoretical calculation of density distribution and of bond length. In conclusion, it was pointed out that the subject of *X*-ray analysis is an essential connecting link, a sort of half-way house, between the experiments of pure chemistry and the more recent advances in theoretical chemistry.

Minutes of a

SCIENTIFIC MEETING

held at the Royal Institution, Albemarle Street, London, W.1, on Thursday, April 16th, 1942, at 4.30 p.m.

The President, Dr. W. H. MILLS, M.A., F.R.S., was in the Chair.

After a brief introduction, the PRESIDENT called on the Right Honourable LORD RAYLEIGH, F.R.S., to deliver the Sir Joseph Thomson Memorial Lecture. At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by the PRESIDENT, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Lionel S. Hartz	1941	June 30th, 1941.
Andrew McKeown	1926	September 5th, 1940.
Francis G. H. Tate	1908	April 10th.
David W. W. Spittle	1938	Killed in action.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. W. French for presenting a number of volumes of the *Annual Reports* and to Sir Prafulla C. Rây for a contribution to the Library Fund.

FELLOWSHIP.

On April 16th, the resignations of 8 Fellows were accepted; the names of 2 Fellows were removed from the List of Fellows under the action of Bye-Law 15; 2 Fellows were reinstated and the following 64 candidates were elected Fellows of the Society:

Gordon Campbell Ackroyd.
John Ernest Adamson.
James MacGregor Allan.
Richard Joachim Ascher.
Brian Judd Attwell.
Harry Barkley.
John Alfred Barltrop.
Harold Probert Brown.
William Stansfield Calcott.
Robert Campbell.
William Edward Chambers.
Robert H. Clark.
Norman Frederick Crowder.
John Ivan Cunneen,
Wilmot Alvin Davidson.
Cyril Edwards.
Howard McKee Elsey.
Sidney David Gardiner.
William George Grindle.
Ernest Norman Hamnett.
Mark Mellalieu Heywood.
William Henry Hill.
John Leslie Howard.
Brian Lewis Huson.
Leo Ivanovszky.
Karl Jellinek.
Pavel Kohn.
Henry Mill Lancaster.
Bernhard Landau.
John Buckingham Grey Lewin.
David Arthur Bosworth Llewelyn.
Edward Mallinckrodt.
John Albert Marriott.
Bert Billington Marsh.
Stanley Herbert Morrell.
Samuel Morris.
George Rippon Nellist.
William Osborn.
Armand Papineau-Couture.
Maurice William Partridge.
Raymond Henry Peters.
Frank Gordon Randall.
Andrew John Blackford Robertson.
Stanley Howarth Ryder.
Frederick George Sayer.
Ernest Smith.
Arthur Suddaby.
Albert Taylor.
Geoffrey Millward Timmis.
David High Tullis.
Frederick Edward Twining.
John Ellis Wakeford.
George William Walker.
Herbert Arthur Watson.
Mearns Bruce Watson.
Joseph Weiss.
Hal Wells.
Reginald Gerald Wallace Willcocks.
Eric Frederick David Winter.
Ernest Roy Sealey Winter.
James Herbert Wood.
Ronald Wood.
Alfred Wright.
Winifred Booth Wright.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, May 18th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Baddiley, James, B.Sc.Hons. (Manc.). British. 6, Willow Bank, Fallowfield, Manchester, 14. Student at Manchester University doing research in organic chemistry under Professor A. R. Todd. *Signed by:* A. E. Gillam, Alex. R. Todd, Alex Parkinson.

***Bidwell, Ethel,** B.Sc. (Lond.). British. 4, Wickham Road, Beckenham. Assistant Chemist. *Signed by:* Leslie H. Lampitt, T. S. Moore, G. E. Forstner.

Coen, James, B.Sc.Hons., A.I.C. British. 267, Heywood Road, Prestwich. Technical Assistant. *Signed by:* S. Horwood Tucker, T. S. Patterson, T. S. Stevens.

Eadie, Robert George Watt, B.Sc. (Glas.), F.I.C. British. 17, The Avenue, Roundhay, Leeds, 8. Deputy Coal Tar Controller (Technical). *Signed by:* W. M. Cumming, I. V. Hopper, F. Rumford.

Goodchild, Sydney Laurence. British. 14, Downs Hill, Beckenham. Chief Chemist and Director, Messrs. British Cellulose Lacquers, Ltd. *Signed by:* N. J. L. Megson, J. O. Cutter, H. Langwell.

Green, Edmund, M.Sc. (Lond.). British. 35, Tudorville Road, Bebington. Research Chemist. *Signed by:* W. H. C. Simmonds, P. N. Williams, A. D. Scott.

Hackney, Norman, B.Sc. (Lond.), F.I.C. English. 6, Esplanade East, Calcutta. Deputy Director of Metals. *Signed by:* S. S. Bhatnagar, Wm. Cullen, R. Leslie Collett.

***Hawkins, Lawrence Hugh Cecil.** English. 27, Carlton Road, Burnley. Undergraduate at Manchester University. *Signed by:* Alex. R. Todd, H. T. Openshaw, G. N. Burkhardt.

James, Frank, M.Sc. (B'ham). British. Hilboro, Tenby Road, Cardigan. Research Chemist. *Signed by:* F. G. Willson, W. W. Jones, R. C. Gale.

Jarrett, Stanley Graham, B.Sc. and Ph.D. (Lond.), A.I.C. British. 35, Lyndale Avenue, Birkby, Huddersfield. Chemist in Industry. *Signed by:* W. R. H. Hurtley, Wm. Cullen, R. Leslie Collett.

Jones, Patricia La Touche Turner, B.A.Hons. (Cantab.). British. 1133, Greenford Road, Greenford. Research Chemist. *Signed by:* James E. Page, F. A. Robinson, B. Arthur Hems.

Lemon, Cecil George. British. 4, Pembroke Walk, Kensington, W. 8. Technical Consultant. *Signed by:* O. Silberrad, A. J. Amos, D. W. Kent Jones.

***Lumb, Nora Holden,** B.Sc. and Ph.D. (Leeds). British. 27, Patterdale Avenue, Marton, Blackpool. Student in Education Department, Leeds University. *Signed by:* J. W. Baker, William Wild, R. Spence.

Macdonald, John Herbert, 10 years with The Dunlop Rubber Co. British. 13, Eskdale Road, Liverpool, 9. Technical Assistant. *Signed by :* R. R. Butler, A. E. Findley, L. Maddison.

Markland, Joseph, B.Sc. (Lond.), A.I.C. British. 16, Marcus Street, Chester Green, Derby. Analytical Chemist. *Signed by :* R. W. Sutton, A. L. Bacharach, T. P. Hilditch.

Mason, William Alexander, B.Sc.Hons. and Ph.D. (L'pool), A.I.C. British. 85, Londonderry Road, Stockton-on-Tees. Chemist in Heavy Chemical Industry. *Signed by :* A. R. Martin, A. E. Dunstan, Francis H. Carr.

Mills, John Eric, B.Sc.Hons. (Lond.), passed A.I.C. exam. English. 21, Lyndhurst Avenue, Mill Hill, N.W. 7. Analytical Chemist. *Signed by :* H. Lambourne, W. Taylor, S. Humphreys.

***Nye, Peter Hague.** British. Sherwood, Tongdean Road, Hove, 4. Student, reading for Honours degree, Oxford University. *Signed by :* Ronald P. Bell, D. H. Everett, F. E. King.

***Parker, Donald,** B.Sc.Hons. (Lond.). British. 29, Robert Street, Crag Road, Shipley. Ferrous Metallurgist *Signed by :* R. M. Barrer, H. I. Stonehill, D. Rowley.

***Pollard, Alan.** British. 73, Dewsbury Road, Leeds, 11. Undergraduate, Leeds University. *Signed by :* J. W. Baker, R. B. Hardwick, Frederick Challenger.

Rabinovitch, Jacob, Ingenieur Chimiste de l'université de Caen, Sterol-Chemist. Palestinian. 9, West Bank, N. 16. Research Chemist. *Signed by :* A. L. Bacharach, Ernest Berdmann, V. A. Petrow.

***Wolf, Werner Max,** B.Sc. (Lond.). Stateless (formerly German). 56, Muswell Hill Road, N. 10. Chemist in Industry. *Signed by :* C. K. Ingold, E. D. Hughes, H. G. Poole, J. Pomeraniec.

Wood, John Henry George, 20 years' experience as nutritional investigator and advisor on Health Magazines and 12 years as Managing Director of Health Food Manufacturers. British. Loxleys, Wiggington, Tring. Editor, *Health Magazine*. *Signed by :* D. W. Kent Jones, A. J. Amos, Stephen Miall.

Wright, Robert Allen, A.I.C., Assoc. M.C.T. British. 23, Albert Road, Eccles, Manchester. Chemist to a Rubber Company. *Signed by :* Francis H. Carr, A. E. Dunstan, H. Tempany.

UNDER SPECIAL PROVISIONS APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Legge, Denis Ivor, B.Sc. (Lond.), A.I.C. British. c/o Trinidad Leaseholds, Ltd., Pointe à Pierre, Trinidad, B.W.I. Assistant Research Chemist. *Signed by :* Arthur G. V. Berry.

Smith, Charles Frederick, B.Sc. (Florida), 2 years post-graduate study in Graduate School, Yale University. American. 735, Delaware Avenue, Buffalo, N.Y. Technical Representative, U.S. Rubber Reclaiming Co., Inc. *Signed by :* Foster Dee Snell.

Wissler, William Arthur, A.M. (Indiana). American. 4625, Royal Avenue, Niagara Falls, N.Y. Research Metallurgist and Development Engineer. *Signed by :* Foster Dee Snell.

* Reduced Annual Subscription.

PAPERS RECEIVED.

List of papers received between March 23rd and April 16th, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Derivatives of 3(N), 4-pyridine-pyrene." By M. Weizman and F. Bograchov.

"Antiplasmodial action and chemical constitution. Part V. Carbinolamines derived from 6-methoxyquinoline." By H. King and T. S. Work.

"Antiplasmodial action and chemical constitution. Part VI. Compounds related to lepidylamine." By T. S. Work.

"The synthesis of amines from amides through the amidodichlorides." By T. S. Work.

"Constitution of the coloured condensation product from furfural, aniline, and aniline hydrochloride." By G. Williams and C. L. Wilson.

"Some further observations on the interchange of heavy oxygen between water and certain inorganic oxyanions." By E. R. S. Winter and H. V. A. Briscoe.

"The inter-relation of first- and second-order asymmetric transformation." By M. M. Jamison and E. E. Turner.

"The crystal structure of *trans-trans*-dimethyl fumarate and *trans-trans*-dimethyl muconate." By M I. E. Knaggs and Mrs. K. Lonsdale.

ADDITIONS TO THE LIBRARY.

I. *By Purchase.*

ADVANCES IN COLLOID SCIENCE. Edited by ELMER O. KRAEMER, in collaboration with FLOYD E. BARTELL and S. S. KISTLER. Vol. I. New York 1942. pp. xii + 434. ill. (*Reference.*) $5.50.

ALLEN, R. M. Photo-micrography. New York 1941. pp. viii + 365. ill. $5.50. (*Recd.* 16/4/42.)

HEALEY, R. H., and REED, J. W. The behaviour of slow electrons in gases: an account of diffusion methods together with a comparison between results obtained by these and by various other methods. Sydney 1941. pp. xii + 179. ill. 20*s*. net. (*Recd.* 16/4/42.)

MERRILL, G. R., MACORMAC, A. R., and MAUERSBERGER, H. R. American cotton handbook: a practical reference book for the entire cotton industry. New York 1941. pp. [xx] + 1024. ill. (*Reference.*) $6.

MORTON, AVERY ADRIAN. Laboratory technique in organic chemistry. New York 1938. pp. x + 261. ill. $2.50. (*Recd.* 16/4/42.)

NOYES, WILLIAM ALBERT, jun., and LEIGHTON, PHILIP ALBERT. The photochemistry of gases. (American Chemical Society, Monograph Series.) New York 1941. pp. 475. ill. $10. (*Recd.* 9/3/42.)

PIGOTT, E. C. The chemical analysis of ferrous alloys and foundry materials. London 1942. pp. xvi + 362. 28*s*. net. (*Recd.* 16/4/42.)

RHODES, THOMAS J. Industrial instruments for measurement and control. New York 1941. pp. x + 573. ill. $6. (*Recd.* 16/4/42.)

SHERMAN, HENRY C., and LANFORD, CAROLINE SHERMAN. Essentials of nutrition. New York 1940. pp. x + 418. ill. $3.50. (*Recd.* 16/3/42.)

STRAIN, HAROLD H. Chromatographic adsorption analysis. New York 1942. pp. x + 222. ill. $3.75. (*Recd.* 16/4/42.)

WOODROFFE, D. Fundamentals of leather science. Croydon 1941. pp. 158. ill. 8*s*. 6*d*. net. (*Recd.* 19/2/42.)

II. *Pamphlets.*

BORON AGRICULTURAL BUREAU. Boron in agriculture. London 1940. pp. 36. ill.

BRITISH STANDARDS INSTITUTION. B.S. 997: 1941. Crude sperm oil. pp. 15. ill.

—— B.S. 998: 1941. Pure vacuum salt for dairy purposes. pp. 11.

—— B.S. 1011: 1942. Red lead ready mixed points. pp. 12. ill.

HOLDER, E. J. Surgical sutures and ligatures. Edinburgh 1939. pp. 64. ill.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND. "The precious metals." By H. GORDON DALE. 24th Streatfeild Memorial Lecture. London 1941. pp. 20. ill.

TECHNOLOGY DEPT.

May 1942

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W.1, on Thursday, May 21st, 1942, at 4.30 p.m.

The President, Dr. W. H. MILLS, M.A., F.R.S., was in the Chair.

The minutes of the 101st Annual General Meeting on March 26th, and of a Scientific Meeting on April 16th, 1942, which had been circulated, were taken as read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: S. E. Michael, B. Landau, and J. E. Salmon.

TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Professor R. D. Haworth to deliver his Tilden Lecture, entitled: "The Chemistry of the Lignan Group of Natural Products." At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by Professor R. P. Linstead, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Herbert Lister Bowman	1896	April 22nd.
Edward Gardner	1906	March 2nd.
Alfred Greeves	1894	April 12th.
Joseph Lones	1920	February 4th.
Alfred William Nash	1925	March 14th.
William John Young	1913	Recently.

CONGRATULATIONS.

The President has conveyed the congratulations of the Council to Messrs. R. B. Brown, F. Comyns, J. T. Hewitt, H. F. Hills, and C. G. Moor, who completed 50 years of Fellowship on May 5th.

COMMITTEES.

The Council have conveyed their thanks to the retiring members of Committees for the services they have rendered to the Society.

The following Committees have been appointed for 1942—1943:

Finance and General Purposes Committee.

F. H. Carr, A. E. Dunstan, H. J. T. Ellingham, G. I. Finch, I. M. Heilbron, R. G. W. Norrish, Sir Robert Pickard, R. E. Slade, together with the Officers, the Chairman of the Publication Committee and the representative of the Joint Library Committee on the Council of the Chemical Society. The President as Chairman, Treasurer as Vice-Chairman, and the General Secretary as Secretary.

Publication Committee.

T. S. Moore as Chairman, A. J. Allmand, W. Baker, R. P. Bell, E. J. Bowen, H. V. A. Briscoe, F. Challenger, J. E. Coates, J. W. Cook, W. E. Garner, J. M. Gulland, C. R. Harington, G. S. Hartley,

R. D. Haworth, I. M. Heilbron, T. A. Henry, D. H. Hey, E. L. Hirst, E. D. Hughes, J. Kenyon, F. G. Mann, H. W. Melville, J. R. Partington, A. Robertson, S. Sugden, H. Terrey, A. R. Todd, together with the Officers, and the Editor as Secretary.

Research Fund Committee.

J. W. Cook, W. E. Garner, I. M. Heilbron, C. N. Hinshelwood, H, McCombie, J. Kenyon, Sir Robert Robinson, J. L. Simonsen, S. Sugden, together with the Officers. The President as Chairman, and the General Secretary as Secretary.

Publications Exchange Committee.

A. C. G. Egerton, H. J. Emeléus, E. E. Turner, with T. A. Henry (ex-officio representative of the Joint Library Committee on the Council) and the Officers, with the Librarian as Secretary.

CONJOINT OFFICE.

The Conjoint Chemical Office is now installed at 6, Burlington Gardens. Set up by the Chemical Council with the concurrence of the Constituent Bodies, it is dealing with the finances of the Chemical Society and of the Society of Chemical Industry and with the distribution of all publications of the two Societies. This will greatly simplify the working of the co-operation scheme and will add to the efficiency of the Societies' work. The Staff is seconded from the Chemical Society and the Society of Chemical Industry.

ADDITIONAL MEMBER OF COUNCIL.

Dr. H. J. T. Ellingham has been appointed as an additional Member of Council.

RESEARCH GRANT.

The Council have made a grant of £25 to Professor A. C. G. Egerton for a research on "Preparation of Hydrocarbons of High Purity."

AMERICAN CHEMICAL SOCIETY.

The President has received the following letter from the Secretary of the American Chemical Society:

"DEAR DR. MILLS,

"President Harry N. Holmes requests me to express to you our sincere appreciation of your cablegram of March 26th sending greetings from the One Hundred and First Annual Meeting of your Society to the American Chemical Society, and expressing your hopes for early Allied victory, which of course we echo. It was nice of you to remember us at this time, and such an expression tends to increase the feeling of solidarity between the chemists of our two countries who are so deeply concerned in eliminating the Axis psychology from humanity.

"With all good wishes.

(*Signed*) C. L. PARSONS."

FELLOWSHIP.

One Fellow has been reinstated, the resignations of 5 have been accepted, and the name of one has been removed from the List of Fellows under the action of Bye-Law 15. The following 26 candidates were elected Fellows on May 21st:

James Baddiley.
Ethel Bidwell.
James Coen.
Robert George Watt Eadie.
Sydney Laurence Goodchild.
Edmund Green.
Norman Hackney.
Lawrence Hugh Cecil Hawkins.
Frank James
Stanley Graham Jarrett.
Patricia La Touche Turner Jones.
Denis Ivor Legge.
Cecil George Lemon.
Nora Holden Lumb.
John Herbert Macdonald.
Joseph Markland.
William Alexander Mason.
John Eric Mills.
Peter Hague Nye.
Donald Parker.
Alan Pollard.
Charles Frederick Smith.
William Arthur Wissler.
Werner Max Wolf.
John Henry George Wood.
Robert Allen Wright.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, June 15th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Ballard, William Edward, A.I.C. British. 20, Croftdown Road, Harborne, Birmingham, 17. Managing Director of a Works. *Signed by :* J. J. Fox, R. Leslie Collett, Robert H. Pickard.

Barnes, Harry, B.Sc.Hons. and Ph.D. (L'pool), A.I.C. British. 8, Chatsworth Road, West Bridgford. Chemist. *Signed by :* Wilfred F. Elvidge, Norman H. Law, John R. Jarratt.

Chapman, Henry Esmond, M.P.S.; formerly Assistant Editor, Pharmaceutical Journal and Editor, Chemist Trade Record; certified as Gas Instructor, France 1918. British. Mill House, Mill Lane, Tempsford. Secretary to Trade Association of manufacturing wholesale and retail chemists. *Signed by :* Wilfred H. Linnell, T. E. Wallis, T. W. Jones.

Copp, Frederick Charles, B.Sc. and Ph.D. (Wales), A.I.C. British. Langley Court, Beckenham. Research Chemist. *Signed by :* J. L. Simonsen, L. F. Gilbert, G. R. Ramage, L. N. Owen.

Dolby, Derek Ernest, B.Sc.Hons. and Ph.D. (Birm.). British. 14, Woodland Park Road, Leeds, 6. Demonstrator in Bacteriology, School of Medicine, Leeds University. *Signed by :* J. W. Baker, W. A. Wightman, F. R. Goss, Frederick Challenger.

***Fielden, Richard James,** B.Sc. (Lond.), A.R.C.S. British. 9, Atlas Road, Darwen. Works Chemist. *Signed by :* G. A. R. Kon, E. R. H. Jones, A. H. Cook.

Foley, John, B.Sc. (Lond.), A.R.C.S. British. 5, Lancaster Place, W.C. 2. Sales Manager. *Signed by :* Frank Hartley, G. A. R. Kon, Charles Simons.

Gregory, Edwin, Ph.D. and M.Sc. (Lond.), A.Met. (Sheffield), F.I.C., M.I.E.I. British. Sycamore Cottage, Moorgate, Rotherham. Chief Metallurgist to an Iron and Steel Co. *Signed by :* J. J. Fox, Wm. Cullen, R. Leslie Collett.

Halberstadt, Ernst Siegfried, B.Sc.Hons. (Lond.). German. Wylfa, Shore Road. Llanfairfechan. Student at University College, London, at Aberystwyth. *Signed by :* E. D. Hughes, C. K. Ingold, Henry Terrey.

Halstead, Philip Edward, B.Sc. and Ph.D. (Lond.), A.I.C. British. 22, Elgar Avenue, Pollards Hill, S.W. 16. Works Chemist, engaged mainly in analysis and research. *Signed by :* Philip S. Allam, Robert H. Pickard, R. Leslie Collett.

***Hargreaves, Michael Kenneth,** Natural Sciences Tripos, Part I. British. Downing College, Cambridge. Studying for Part II Natural Sciences Tripos in Organic Chemistry. *Signed by :* F. Wild, F. G. Mann, D. H. Peacock, B. A. Kilby.

Johnson, Alan Woodworth, Ph.D. (Lond.), A.R.C.S., D.I.C. British. 102, Redcliffe Gardens, S.W. 10. Research Chemist. *Signed by :* G. A. R. Kon, E. R. H. Jones, A. Spinks.

Lawson, John Charles, B.A. (Cantab), A.I.C. British. Broadheath, Hall Park, Lancaster. Research Chemist. *Signed by :* J. J. Fox, Wm. Cullen, R. Leslie Collett.

Le Pine-Williams, Basil Heathcote. British. 57, Liverpool Road, Chester. Works Chemist. *Signed by :* F. D. Williams, F. Holme, W. J. C. Dyke, F. E. Rymill.

Lightfoot, Percy Robinson, A.I.C. British. 3, Morley Road, Runcorn. Research Chemist. *Signed by :* J. J. Fox, Wm. Cullen, R. Leslie Collett.

Pryce, Norman Arthur Chetwynd, B.Sc.Hons. (Wales), A.I.C. British. c/o 37, Balfour Road, Highbury, N. 5. Research Chemist. *Signed by :* Francis H. Carr, P. G. Marshall, W. D. Johnson.

Raeburn, Leonard Thom. British. 61, Hutton Avenue, West Hartlepool. Metallurgical Analyst. *Signed by :* G. H. Christie, J. C. E. Simpson, C. W. Gibby.

***Raphael, Ralph Alexander,** B.Sc. (Lond.), A.R.C.S. British. 79, Church Hill, E. 17. Research Student at Royal College of Science, S.W. 7. *Signed by :* A. H. Cook, E. R. H. Jones, G. A. R. Kon.

Ratcliffe, John, B.Sc. (Lond.), A.I.C. British. Technical College, Derby. Lecturer in Chemistry, Derby Technical College. *Signed by :* J. J. Fox, R. Leslie Collett, Robert H. Pickard.

Rawson, William Ignatius Snell, Sc.M. and Ph.D. (Chattanooga). National of the Union of South Africa. 88, Gloucester Place, W. 1. Bacteriologist and Chemist Analyst. *Signed by :* O. Silberrad, Pierce A. Arnold, Alexander H. Hayes.

Robson, John Hamilton. British. Ashbourne, Jesmond Dene Road, Newcastle-on-Tyne. Company Director (Technical Chemist). *Signed by :* G. R. Clemo, P. L. Robinson, Richard Raper.

***Rose, Gerald Gershon,** B.Sc. (Lond.), A.R.C.S. British. 25, Prothero Gardens, Hendon, N.W. 4. Research Student of Royal College of Science, S.W. 7. *Signed by :* E. R. H. Jones, A. H. Cook, G. A. R. Kon.

***Stack, Maurice Vincent,** B.Sc. (Lond.). British. 7, Mowbray Road, Edgware. Student. *Signed by :* H. D. K. Drew, J. R. Partington, V. A. Petrow.

Staples, Michael. British. 120, Eglinton Street North, Sunderland. St. Johns Malting Co., Ltd., Lombard Street, Sunderland. *Signed by :* J. Stewart Cook, J. H. Wilkinson, H. L. Riley.

Suttle, Harold Kershaw, A.I.C., A.M.I.Chem.E. British. 16, Abercrombie Street, Chesterfield. Chemist and Chemical Engineer. *Signed by :* G. W. J. Bradley, W. T. Gardner, H. M. Spiers.

***Taylor, Henry.** Second year student for Honours B.Sc. in Chemistry. British. 73, Royal Park Avenue, Leeds, 6. Student, Leeds University. *Signed by :* J. W. Baker, W. A. Wightman, G. F. Smith, F. Challenger.

Tee, Frederick William, A.I.C., A.M.C.T. British. c/o Cumberland Pencil Co., Ltd., Southry Works, Keswick. Works (Analytical and Research) Chemist. *Signed by :* John K. Wood, T. K. Walker, W. Bradley.

Turner, Stephen Henry, B.Sc. (Lond.), A.I.C. British. c/o The Hindustan Vanaspati Manufacturing Company, Limited, Sewri, Bombay, 15. Deputy Works Manager. *Signed by :* J. Kenyon, A. Houston, C. W. Davies.

Ungar, Rudolf, Ing. (Vienna). Austrian. 77, Ormonde Court, Upper Richmond Road, Putney, S.W. 15. Chemist. *Signed by :* Thomas McLachlan, A. Krajkeman, R. L. Edwards.

Warr, John Culver, B.A.Hons. (Oxon), F.I.C., M.I.Chem.E., Barrister-at-Law. British. 8, Avenue Road, Wolverhampton. Supply Officer. *Signed by :* J. J. Fox, Wm. Cullen, R. Leslie Collett.

Woodcock, David, M.Sc. and Ph.D. (Dun.). English. 38, Watt Lane, Crosspool, Sheffield, 10. Research Chemist. *Signed by :* Alex H. Lamberton, R. D. Haworth, Brynmor Jones.

* Reduced Annual Subscription.

UNDER SPECIAL PROVISIONS APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Gooding, Chester M., M.S. and Ph.D. (Michigan). U.S.A. 99, Avenue A, Bayonne, N.J. Research Chemist. *Signed by :* Foster Dee Snell.

Sachs, Werner, Phil. D. (Berlin). German. 5, Lauriston Road, S.W. 19. Chemical Engineer. *Signed by :* P. P. Hopf.

PAPERS RECEIVED.

List of papers received between April 16th and May 21st, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The magnitude of the solvent effect in dipole-moment measurements. Part VI. Induced and mesomeric moments of the alkyl halides and the halogenobenzenes." By A. AUDSLEY and F. R. GOSS.

"Reactions of hydrazoic acid. Part II. A quantitative study of the action with substituted benzoic acids." By L. H. BRIGGS and J. W. LYTTLETON.

"The halogenation of phenolic ethers and anilides. Part XII. Some Arrhenius activation energies." By BRYNMOR JONES.

"Automatic adjustment of solute concentration in the 'moving boundary' method for the determination of transport numbers." By R. WRIGHT.

"Rubber, polyisoprenes and allied compounds. Part II The molecule-linking capacity of free radicals and its bearing on the mechanism of vulcanisation and photo-gelling reactions." By E. H. FARMER and S. E. MICHAEL.

"*iso*Oxazolidine and orthoxyazolidine." By H. KING.

"Alkyl-oxygen fission in carboxylic esters. Part I. Esters of $\alpha\gamma$-dimethylallyl alcohol and other substituted allyl alcohols." By M. P. BALFE, H. W. J. HILLS, J. KENYON, H. PHILLIPS, and B. C. PLATT.

"*Sophora* alkaloids. Part III. The alkaloids of the seeds of *S. chrysophylla*." By L. H. BRIGGS and W. E. RUSSELL.

"Synthesis of methyl α-methoxyacrylate and α-methoxyacrylonitrile; characterisation of methoxy-derivatives of propionic acid." By J. W. BAKER.

"The nitration of 9-*p*-toluenesulphonylcarbazole." By B. K. MENON, E. V. MENON, and D. H. PEACOCK.

"Preparation of 1 : 2 : 4 : 5-tetraphenylbenzene from benzylideneacetophenone." By A. SCHÖNBERG and A. F. A. ISMAIL.

"Sapogenins. Part XIII. The position of the double bond in acids of the β-amyrin group." By P. BILHAM, G. A. R. KON, and W. C. J. ROSS.

"Sapogenins. Part XIV. The constitution of glycyrrhetic acid and its relation to oleanolic acid." By P. BILHAM, G. A. R. KON, and W. C. J. ROSS.

"Sapogenins. Part XV. Siaresinolic acid." By P. BILHAM, G. A. R. KON, and W. C. J. ROSS.

"Sapogenins. Part XVI. The acids of elemi resin." By P. BILHAM and G. A. R. KON.

"The associating effect of the hydrogen atom. Part X. The N–H–N bond. The constitution of the benzthiazoles." By T. G. HEAFIELD and L. HUNTER.

"The crystal structure of rubber hydrochloride." By C. W. BUNN and MRS. E. V. GARNER.

"Studies on biological methylation. Part VIII. A summary of recent work on biological methylation and some hypotheses regarding its mechanism." By F. CHALLENGER.

"Azulenes. Part I. Synthesis of vetivazulene." By R. R. COATS and J. W. COOK.

"Observations on the absorption spectra of terpenoid compounds. Part III. The thiosemicarbazones of irone, eucarvone, and some related ketones." By A. E. GILLAM and T. F. WEST.

"Potassium alkylselenonates and other alkyl derivatives of selenium." By MISS M. L. BIRD and F. CHALLENGER.

"The nature of the carbohydrate residue in ovomucoid. Part II." By M. STACEY and J. M. WOOLLEY.

"Acenaphthene series. Part I. Mono- and di-*tert.*-butyl-acenaphthene, -acenaphenequinone, and -naphthalic anhydride, and their derivatives." By A. T. PETERS.

"*Sophora* alkaloids. Part IV. The alkaloids from the seeds of the Chatham Islands species." By L. H. BRIGGS and W. E. RUSSELL.

"A new method of end-group assay for laminarin and similarly constituted polysaccharides." By V. C. BARRY.

"The nitration and oxidation of dimethylaniline by aqueous nitric acid." By H. H. HODGSON and G. TURNER.

"A colour test for certain carcinogenic hydrocarbons." By E. B. LISLE.

TECHNOLOGY DEPT.

June, 1942.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

PUBLIC LIBRARY
AUG 5 - 1942

OFFICIAL ANNOUNCEMENTS

CONGRATULATIONS.

The congratulations of the Society have been conveyed to Group Captain W. Helmore on his receiving the honour of C.B.E., and to Mr. Horatio Ballantyne, who completed 50 years of Fellowship on June 16th.

CONTRIBUTIONS.

The thanks of the Council have been conveyed to Messrs. H. F. Hills and T. McLachlan for contributions to the Publications Fund.

MENDELÉEV ALL UNION CHEMICAL SOCIETY.

The following cable has been received from the Mendeléev All Union Chemical Society:

Dr. Mills, President of the Chemical Society.

We, the President and Members of the Mendeléev All Union Chemical Society, thank you and all members of the Chemical Society for greetings. We are in full accord with your estimation of Hitler's Nazi tyranny and barbarity. In common with the many millions of Soviet people and with all freedom-loving people throughout the world, Chemists of the Soviet Union are confident of the victory of all progressive forces of human society over the bestial Nazi executioners.

Soviet Chemists are glad that in this just War they have the support of British and American Chemists. By creative progress in the sphere of Chemical Science and Technology, and by the prompt interchange of experience and constant mutual assistance, Chemists in England, the United States of America, and the Soviet Union, as well as in other anti-Nazi countries, will make great contributions in the present historic fight. This strengthening of our common creative initiative and activity is of tremendous significance.

Members of the All Union Chemical Society warmly greet you, and call for your friendly co-operation in the joint work of defending world civilisation and achieving complete victory over the dark forces of Hitlerite obscurantism and man-hatred.

With British Chemists, we sincerely hope that with the destruction of Hitler-Nazism the prostitution of science to the annihilation of mankind will cease, and that men of science will be able to work together for the good of humanity.

President of the Mendeléev All Union Chemical Society and President and Members of the Academy.

Signed: N. Zelinsky, A. Favorsky, V. Kiselves, S. Wolfkovich.

VACANCY ON COUNCIL.

The Council have received with regret the resignation of Professor G. F. Marrian from the office of Elected Ordinary Member of Council for Constituency V (Scotland), owing to his taking up a Government appointment. Dr. J. D. M. Ross has accepted the invitation of the Council to fill the vacancy until the next Annual General Meeting in March 1943.

PUBLICATION COMMITTEE.

Professor T. S. Moore has accepted the invitation of the Council to serve as Chairman of the Publication Committee.

LOCAL REPRESENTATIVE FOR NORTHERN IRELAND.

Dr. H. Graham has accepted the invitation of the Council to serve as Local Representative for Northern Ireland.

ADDITIONS TO THE LIBRARY.

By arrangement with the Society of Chemical Industry, the Additions to the Library will in future appear in *Chemistry and Industry*.

LIBRARY.

The Library will be entirely closed for cleaning and stocktaking from Monday, August 3rd, to Saturday, August 8th, inclusive.

The usual recall of books will, however, not take place.

FELLOWSHIP.

The resignations of 2 Fellows have been accepted, the name of 1 Fellow has been removed, and the following 33 candidates were elected on June 18th :

William Edward Ballard.
Harry Barnes.
Henry Esmond Chapman.
Frederick Charles Copp.
Derek Ernest Dolby.
Richard James Fielden.
John Foley.
Chester M. Gooding.
Edwin Gregory.
Ernst Siegfried Halberstadt.
Philip Edward Halstead.
Michael Kenneth Hargreaves.
Alan Woodworth Johnson.
John Charles Lawson.
Basil Heathcote Le Pine-Williams.
Percy Robinson Lightfoot.
Norman Arthur Chetwynd Pryce.
Leonard Thom Raeburn.
Ralph Alexander Raphael.
John Ratcliffe.
William Ignatius Snell Rawson.
John Hamilton Robson.
Gerald Gershon Rose.
Werner Sachs.
Maurice Vincent Stack.
Michael Staples.
Harold Kershaw Suttle.
Henry Taylor.
Frederick William Tee.
Stephen Henry Turner.
Rudolf Ungar.
John Culver Warr.
David Woodcock.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, July 20th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Collins, Ronald Bernard, B.Sc. (Lond.), A.I.C. British. Ilford. Research Chemist. *Signed by :* G. A. Snow, J. D. Kendall, R. Leslie Collett.

Crowther, Harold Albert Hadleigh. English. 74, The Grove, West Wickham. Technical Director, British Hydrological Corporation. *Signed by :* C. Roy Greenwood, J. R. Booer, L. N. Tyrrell.

***Flood, Alan Edward,** B.A.Hons. (Cantab.). British. 199, McLeod Road, Abbey Wood, S.E. 2. Research Chemist. *Signed by :* W. W. Jones, A. Brewin, Stanley L. Thomas.

Guggenheim, Markus, D.Phil. and M.D.h.c. (Basle). Swiss. 37, Wettsteinallee, Basle. Director of Scientific Department, Messrs. Hoffmann-La Roche & Co., Basle. *Signed by :* Francis H. Carr, F. Bergel, Alex. R. Todd.

Holland, Eric James, M.P.S., A.I.C. British. 16, Loretto Drive, Upton, near Birkenhead. Pharmacist at Hospital. *Signed by :* H. Humphreys Jones, R. R. Butler, A. E. Findley.

Kendall, James Tyldesley, B.A. (Cantab.). British. 78, Talbot Road, Old Trafford, Manchester. Chemist. *Signed by :* James Kendall, E. G. V. Percival, Mowbray Ritchie.

Leftwich, Anthony Winnington, B.Sc. (Lond.). British. 26, King Edward Street, Slough. Assistant Master at Boys' Grammar School. *Signed by :* F. W. Heeley, Henry Terrey, Oswald J. Walker.

Nicholls, Stanley Frederick, A.I.C., M.P.S. British. 60, Merchant Avenue, Spondon. Research Chemist. *Signed by :* Leslie H. Lampitt, A. E. Dunstan, R. Leslie Collett.

Smart, Thomas Fraser Mackenzie, O.B.E. Studied chemistry, physics, physiology, biochemistry at Edinburgh University. British. Horsham. Managing Director of a firm of manufacturing chemists. *Signed by :* H. D. Kay, A. R. Todd, G. F. Marrian.

Stratford, Reginald Killmaster, B.S.A. (Ontario), M.Sc. (Amherst), D.Sc. (Lyons). Canadian. c/o Imperial Oil Limited, Sarnia, Ontario. Chief Research Chemist. *Signed by :* C. H. Robinson, H. M. Lancaster, A. Linton Davidson.

Taylor, Charles Walter Selkrig, B.Sc. (Edin.), A.I.C. British. Horsham, Sussex. Technical Sales Manager to a firm of manufacturing chemists. *Signed by :* H. D. Kay, A. R. Todd, G. F. Marrian.

Waters, Walter Frederick, B.Sc. (Wales), F.I.C. British. Vine Cottage, High Street, Great Bookham. Chemist. *Signed by :* J. R. Nicholls, J. G. A. Griffiths, R. Leslie Collett.

***Webster, Harold,** National Certificate, Chemistry. British. 76, High Street, Skelmersdale, near Ormskirk. Assistant at Research Establishment. Part time student at Wigan Mining and Technical College. *Signed by :* F. N. Woodward, W. E. Jones, R. C. G. Moggridge.

Woombs, Norman Tagg. British. Ivydene, Smisby Road, Ashby-de-la-Zouch. Pilot Officer in Signals Branch of R.A.F.V.R. *Signed by :* A. R. Harriman, T. S. Smith, T. Harrington.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between May 21st and June 18th, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" Rare-earth metal amalgams. Part II. The separation of neodymium, samarium, and gadolinium." By J. K. Marsh.

" The preparation of certain 2-thiolpyridine derivatives." By M. A. Phillips and H. Shapiro.

"The condensation of some aromatic ketones with ethyl succinate." By C. L. HEWETT.

"The decomposition of stabilised diazonium compounds by alcohols and phenol." By H. H. HODGSON and C. K. FOSTER.

"Studies in biological methylation. Part IX. The action of scopulariopsis brevicaulis and certain penicillia on salts of aliphatic seleninic and selenonic acids." By (MISS) M. L. BIRD and F. CHALLENGER.

"Observations on the absorption spectra of terpenoid compounds. Part IV. Five-atom ring unsaturated ketones." By A. E. GILLAM and T. F. WEST.

"Studies of ionisation in non-aqueous solvents. Part V. The formation of certain methoxides and ethoxides in methyl and in ethyl alcohols." By W. L. GERMAN and T. W. BRANDON.

"The active principles of leguminous fish-poison plants. Part VII. The reduction of elliptone." By S. H. HARPER.

"The active principles of leguminous fish-poison plants. Part VIII. The synthesis of dehydrotetrahydroelliptone and of dehydrotetrahydromalaccol." By S. H. HARPER.

"The active principles of leguminous fish-poison plants. Part IX. The synthesis of furano*iso*flavones related to rotenone." By S. H. HARPER.

"*p*-Aminophenol-*o*-sulphonamide and some related compounds." By R. T. WILLIAMS.

"Quinoxaline cyanines. Part I." By A. H. COOK, J. GARNER, and C. A. PERRY.

"A potentiometric study of the oxidation of phenylhydrazine with cupric ions, including the titration of Fehling's solution with phenylhydrazine." By H. T. S. BRITTON and E. M. CLISSOLD.

"The Fries rearrangement and subsequent isomerisation." By G. BADDELEY.

"The isomerisation of some aromatic ketones with aluminium chloride." By G. BADDELEY.

"The action of aluminium chloride on some phenolic ethers." By G. BADDELEY.

"The action of aluminium chloride on some aromatic bromo-compounds." By G. BADDELEY and J. PLANT.

"The action of aluminium chloride on some phenol homologues." By G. BADDELEY.

"Alkyl-oxygen fission in carboxylic esters. Part II. Derivatives of *p*-methoxybenzhydrol." By M. P. BALFE, M. A. DOUGHTY, J. KENYON, and R. POPLETT.

"A note on the oxidation of acetoin." By J. R. POUND.

"The separation of diastereoisomerides by selective adsorption on optically inactive material." By M. M. JAMISON and E. E. TURNER.

"Optical rotatory dispersion of (—)-tetrahydrofurfuryl alcohol." By R. S. AIRS, M. P. BALFE, M. IRWIN, and J. KENYON.

ADDITIONS TO THE LIBRARY.

I. *Donations.*

FELL, ALFRED. The early iron industry of Furness and district: an historical and descriptive account from earliest times to the end of the 18th century, with an account of Furness ironmasters in Scotland, 1726—1800. Ulverston 1908. pp. xviii + 464. ill. (*Reference.*) From Mr. F. R. C. Storey.

II. *By purchase.*

BIOLOGICAL SYMPOSIA. Vol. V. Edited by HOWARD B. LEWIS. Comparative biochemistry. Intermediate metabolism of fats. Carbohydrate metabolism. Biochemistry of choline. Lancaster, Pa. 1941. pp. x + 247. ill. $3. (*Recd.* 28/4/42.)

BOWEN, E. J. The chemical aspects of light. Oxford 1942. pp. viii + 191. ill. 12*s*. 6*d*. net. (*Recd.* 22/4/42.)

DANIELS, FARRINGTON, MATHEWS, J. HOWARD, and WILLIAMS, JOHN WARREN. Experimental physical chemistry. 3rd edition. New York 1941. pp. xviii + 460. ill. $3.50. (*Recd.* 22/4/42.)

DAVISON, ALBERT W., KLOOSTER, HENRY S. VAN, and BAUER, WALTER H. Laboratory manual of physical chemistry. 3rd edition. New York 1941. pp. viii + 229. ill. $2.50. (*Recd.* 30/4/42.)

KAYE, G. W. C., and LABY, T. H. Tables of physical and chemical constants and some mathematical functions. 9th edition. London 1941. pp. viii + 181. (*Reference.*) 18*s*. net.

KOLTHOFF, I. M., and LAITINEN, H. A. *p*H and electro titrations. 2nd edition. New York 1941. pp. x + 190. ill. $3. (*Recd.* 1/5/42.)

MATTIELLO, JOSEPH J. [Editor.] Protective and decorative coatings: paints, varnishes, lacquers and inks. Vol. I. Raw materials for varnishes and vehicles. New York 1941. pp. xii + 819. ill. $6. (*Recd.* 1/5/42.)

NELSON, W. L. Petroleum refinery engineering. 2nd edition. New York 1941. pp. x + 715. ill. $6. (*Recd.* 4/5/42.)

NOYES, WILLIAM ALBERT, JUNR., and LEIGHTON, PHILIP ALBERT. The photochemistry of gases. (American Chemical Society, Monograph Series.) New York 1941. pp. 475. ill. $10. (*Recd.* 9/3/42.)

SCHOLES, SAMUEL R. Modern glass practice. [Revised edition.] Chicago 1941. pp. vi + 289. ill. $6. (*Recd.* 28/4/42.)

SHERMAN, HENRY C., and LANFORD, CAROLINE SHERMAN. Essentials of nutrition. New York 1940. pp. x + 418. ill. $3.50. (*Recd.* 16/3/42.)

STEINER, LUKE E. Introduction to chemical thermodynamics. New York 1941. pp. xiv + 516. ill. $4. (*Recd.* 4/5/42.)

WOODROFFE, D. Fundamentals of leather science. Croydon 1941. pp. 158. ill. 8*s*. 6*d*. net. (*Recd.* 19/2/42.)

III. *Pamphlets.*

BORON AGRICULTURAL BUREAU. Boron in agriculture. London 1940. pp. 36. ill.

BRITISH STANDARDS INSTITUTION. B.S. 997: 1941. Crude sperm oil. pp. 15. ill.

—— B.S. 998: 1941. Pure vacuum salt for dairy purposes. pp. 11.

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH. *Food Investigation.* Special Report No. 51. The composition of the depot fats of aquatic animals. By J. A. LOVERN. London 1942. pp. iv + 72.

HOLDER, E. J. Surgical sutures and ligatures. Edinburgh 1939. pp. 64. ill.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND. "The precious metals." By H. GORDON DALE. 24th Streatfield Memorial Lecture. London 1941. pp. 20. ill.

MINISTRY OF AGRICULTURE AND FISHERIES. Bulletin No. 124. The composition and nutritive value of feeding stuffs. By H. E. WOODMAN. London 1942. pp. 22.

TECHNOLOGY DEPT.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, October 15th, 1942, at 2.30 p.m.

Meeting for the reading of papers. (At Burlington House.)

Thursday, November 19th, 1942, at 2.30 p.m.

The **Sir William Bragg Memorial Lecture,** by Professor J. D. Bernal, D.Sc., F.R.S. (in the Lecture Theatre of the Royal Institution, by kind permission of the Managers). Tickets of admission will not be required.

Thursday, December 17th, 1942, at 2.30 p.m.

Tilden Lecture on "Recent Developments in the Theory of Reaction Kinetics in Solution," by Mr. R. P. Bell, M.A., B.Sc.

OUTSIDE LONDON.

EDINBURGH.

Tuesday, December 1st, 1942, at 7 p.m.

Lecture by Professor J. Monteath Robertson. Joint Meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Medical Chemistry Lecture Theatre, The University, Teviot Place.

LEEDS.

Monday, October 12th, 1942, at 6.30 p.m.

Lecture on "Radioactive Isotopic Indicators," by Dr. F. Fairbrother. To be held in the Chemistry Lecture Theatre of the University (Woodhouse Lane entrance only).

SOUTH WALES.

Saturday, October 31st, 1942, at 3 p.m.

In Swansea.

Lecture on "The Completion of the Periodic Table," by Professor F. A. Paneth, Ph.D. Joint meeting with the University College of Swansea Chemical Society.

Saturday, November 14th, 1942.

In Cardiff.

Lecture by Professor H. W. Melville, D.Sc., F.R.S.

Note.—Further particulars of these meetings will be given in the *Proceedings* for September.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DELAY IN ISSUING THE PUBLICATIONS FOR JULY.

The delay in issuing the publications for July is regretted. This was due to the breakdown of the Addressograph machine which had been in constant use for 35 years. The Society was fortunate in obtaining a licence for the purchase of a new machine, which has now been installed.

LIBRARY.

On and after September 5th, the Library will be open on Saturdays from 10 a.m. to 1 p.m.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, September 14th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Bolton, Edward William, B.Sc. (Lond.), A.R.C.S., A.I.C. British. 189, Huntingdon Road, Cambridge. Factory Manager. *Signed by*: Mamie Olliver, Theodore Rendle, F. P. Dunn.

Bosley, Geoffrey Arthur Holmes, M.P.S. British. Thames House, Millbank, S.W. 1. Research and Development of Pyrotechnics. *Signed by*: J. J. Laws, Wilfred H. Linnell, Harry Irving.

***Bridges, John Edward,** National Certificate in Chemistry. English. 26, Cricklade Road, Bristol, 7. Analytical Chemist. *Signed by*: Arthur Marsden, Frank H. C. Bull, T. Malkin.

Broom, Walter Alfred, B.Sc. (Lond.), A.I.C. British. 53, Dunster Road, West Bridgford. Chief Pharmacologist to a firm of Chemical Manufacturers. *Signed by*: W. Frank Short, D. A. Peak, C. I. Brodrick.

***Brown, Daniel McGillivray.** British. Viewfield, 101, Kilmarnock Road, Giffnock. Student. *Signed by*: T. S. Patterson, J. W. Cook, John A. Mair.

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***Cook, Gerald Bernard,** B.Sc.Hons. (Birm.). British. 22, Maids Causeway, Cambridge. Research Chemist. *Signed by*: Fredk. S. Dainton, G. R. Martin, A. G. Maddock.

Collins, Ronald Bernard, B.Sc.Hons. (Lond.), A.I.C. British. Ilford. Research Chemist. *Signed by*: Victor Gallafent, J. D. Kendall, Kenneth G. A. Pankhurst.

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***David, Werner,** B.Sc.Hons. (Manc.). German. 109, Hurlingham Road, Fulham, S.W. 6. Chemist. *Signed by*: T. Martin A. Tudhope, G. H. Beaven, W. Davey.

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***Dickinson, Roland Edwin,** B.Sc.Hons. (Dun.). British. 3, Deneholm, Monkseaton, Whitley Bay. *Signed by*: Wesley Cocker, Richard Raper, St. Lorant.

Dunsby, Arthur Norman, B.Sc. (Bristol), A.I.C. British. Forestlyn, Springfield, Chelmsford. Manager. *Signed by*: T. Wallace, E. A. Rudge, F. L. Allen.

***Feetham, Frances Mary,** B.Sc. (Lond.). British. Norfolk House, Eaton Road, Crumpsall, Manchester, 8. Technical Assistant. *Signed by*: E. H. Rodd, C. L. Wilson, N. H. Haddock.

Fell, John, A.I.C. British. 20, Seaborn Road, Bare, Morecambe. Analytical Chemist. *Signed by*: E. Taylor, R. A. Cowin, A. W. Edmondson.

***Fraser, William Stuart,** F.R.M.S. British. 6, Park Drive, The Park, Nottingham. Analytical Chemist. *Signed by*: J. E. Murphy, J. A. V. Willis, D. O. Jordan.

***Frith, Elizabeth Mary,** B.A. (Cantab.). British. Girton College, Cambridge. Research Student. *Signed by*: G. H. Twigg, R. R. Smith, F. S. Dainton.

Grisenthwaite, Arthur Turner, B.Sc. (Lond.), F.I.C., A.C.G.F.C., M.I.Chem.E. British. 18, Balmoral Terrace, Stockton-on-Tees. Chemical Engineer. *Signed by*: S. P. Kipping, H. S. Foster, R. Leslie Collett.

Guter, Mark, B.Sc. and Ph.D. (Lond.), A.R.C.S., A.I.C. British. 28, Crayke Road, Stockton-on-Tees. Industrial Research Chemist. *Signed by*: K. W. Gee, H. E. Eduljee, D. G. Jones.

***Hammer, Keith Graham Arthur,** B.A.Hons. (Cantab.). English. 33, Bishopsthorpe Road, Sydenham, S.E. 26. Research Chemist. *Signed by*: F. G. Mann, F. Wild, H. McCombie, B. A. Kilby.

Harvey, Henry Guy, B.Sc. (Lond.), A.I.C. British. 29, Court Way, North Acton, W. 3. Chief Assistant Chemist. *Signed by:* J. J. Fox, Robert H. Pickard, Alex. Findlay.

Hoar, Thomas Percy, M.A. and Ph.D. (Cantab), B.Sc. (Lond.), F.I.C. British. 5c, Market Hill, Cambridge. Research and Consulting Chemist and Metallurgist. *Signed by:* H. McCombie, J. N. Agar, Ulick R. Evans.

Horner, George Milnes, B.Sc. (Lond.), A.I.C. English. Dunelm, Trebor Avenue, Farnham. Captain, Royal Artillery. *Signed by:* A. J. Allmand, D. W. G. Style, G. M. Bennett, E. W. McClelland.

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***Nelson, William Alexander Gardiner,** B.Sc. and Ph.D. (Edin.). British. Linwood, Barrhill, Dalbeattie. Chemist. *Signed by:* J. J. Wark, J. B. Lewis, G. W. Walker.

Nunn, Leslie Charles Alfred, B.Sc. and Ph.D. (Lond.). British. 66, Langdale Road, Runcorn. Research and Works Chemist. *Signed by:* Ida Smedley MacLean, C. L. Arcus, Walter T. J. Morgan.

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Picard, Claus Wolfgang, M.Sc. (Manc.). German. 24, Hesketh Avenue, Didsbury. Industrial Research Chemist. *Signed by:* F. S. Spring, A. E. Gillam, Alex. R. Todd.

Pinnock, Henry Tremayne, M.A. (Oxon), F.I.C. British. 21, Fountain Road, Edgbaston, Birmingham. Technical Manager and Director. *Signed by:* Stanley J. C. Snedker, J. G. Clarke, Geo. King.

Revie, Gilbert Neil. British. 14, Templars Crescent, Finchley, N. 3. Works Manager. *Signed by:* Thos. H. Durrans, B. Dudley Sully, Denis C. Quin.

Richardson, Edward Frank, Experimental work on synthetic resins. British. Botolph House, Botolph Claydon, Bletchley. Managing Director to E. & F. Richardson, Ltd. *Signed by:* Herbert Levinstein, J. J. Fox, J. R. Nicholls.

Roper, Edwin Claxton, B.Sc. (Lond.), A.I.C. British. 47, Slade Road, Newton, Mumbles. Scientific Officer. *Signed by:* A. R. Ubbelohde, George L. Hutchison, Fred Hudswell.

***Schofield, Kenneth,** B.Sc. (Dun.). English. University College, Durham. Research Chemist. *Signed by:* J. C. E. Simpson, G. H. Christie, C. W. Gibby.

Schollick, Francis, B.Sc. (Lond.), A.I.C. British. 21, Keswick Gardens, Ilford. Chief Chemist to Paint Manufacturers. *Signed by:* J. O. Cutter, C. H. Young, S. H. Bell.

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Strauss, Kossy, Dr.Ing. (Karlsruhe), Dip.Ing. British. 229, Quinton Road, Harborne, Birmingham, 17. *Signed by:* H. W. Cremer, F. A. Greene, F. P. Dunn.

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Walters, Thomas Morgan, B.Sc.Hons. and Ph.D. (Wales), A.I.C. British. Dainsbury, Rhossili, Gower. Research Chemist. *Signed by :* Robert Robertson, J. E. Coates, L. E. Hinkel.

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Wilkie, Alexander Stewart, A.I.C., A.H.W.C. British. 5, Newlands Close, Wembley. Chief Chemist and Assistant Manager. *Signed by :* James Sandilands, Robert G. M. Dakers, Hugh B. Nisbet.

Wilkins, Edward Manwaring, B.Sc. (Lond.), B.Sc.Hons. (Bristol). British. Lightpill Mills, Stroud. Works Chemist. *Signed by :* C. A. Redfarn, Thomas McLachlan, A. Krajkeman.

Wilkinson, Fred. English. 26, Ludlow Way, N. 2. Works Manager. *Signed by :* Thos. H. Durrans, B. Dudley Sully, Denis C. Quin.

Wilimott, Wilfrid Eric, B.Sc.Hons. (Lond.), A.I.C. British. 21, Cambridge Road, Farnborough. Research Chemist. *Signed by :* W. Taylor, W. G. S. Parker, G. A. Earwicker.

UNDER SPECIAL PROVISIONS APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Fleischer, Hermann Carl, Ph.D.Hons. (Halle), Dipl. Eng. (Karlsruhe). Stateless. Flat 50, 99, Haverstock Hill, N.W. 3. Consulting Chemical Engineer. *Signed by :* H. L. Lehmann.

Lewi, George, Engineer of Chemical Technology and Dr. of Technical Science (Univ. of Prague). Czechoslovak. 3, Wells Rise, N.W. 8. Director and General Manager. *Signed by :* J. Davidson Pratt.

Puetzer, Bruno, D. Chem. Eng. (Munich). U.S.A. P.O. Drawer 1072, Albany, N.Y. Chief Research Chemist. *Signed by :* Johannes S. Buck.

Rewald, Bruno Albert, Dr.Phil. (Berlin). Stateless. Brenchley, Penn Road, Beaconsfield. Chief Chemist. *Signed by :* T. P. Hilditch, M. M. Heywood.

Underwood, Julius Erwin, M.A. (Wabash Coll.). U.S.A. 1000, Widener Bldg., Philadelphia, Pa. Manager of Research and Development Department of a Salt Company. *Signed by :* N. K. Chaney.

Volwiler, Ernest Henry, A.B. (Miami), Ph.D. (Illinois). American. North Chicago, Ill. Vice-President and Director of Research and Development. *Signed by :* Foster Dee Snell.

Warner, Arthur James, B.Sc. (Lond.). British. 564, Varsity Road, South Orange, N.J. Assisting in the development of plastic insulated materials. *Signed by :* Foster Dee Snell.

* Reduced annual subscription.

TECHNOLOGY DEPT.

THE CHEMICAL SOCIETY

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NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, October 15th, 1942, at 2.30 p.m.

Meeting for the reading of papers. (At Burlington House.)

The following papers will be read and discussed :—

"The Crystal Structure of Phosphorous Pentachloride." By H. M. Powell. (To be read by the Author.)

"The Formation and Structure of some Organic Molecular Compounds." By J. Weiss. (To be read by the Author.)

"Alkyl oxygen fission in carboxylic esters. Part II. Derivatives of *p*-methoxybenzhydrol." By M. P. Balfe, M. A. Doughty, J. Kenyon, and R. Poplett. (To be read by Dr. J. Kenyon.)

"Studies in the Polyene Series. Parts V, VI, and VII. An Account of Recent Work directed towards the Synthesis of Vitamin A and Analogous Compounds." By I. M. Heilbron, A. W. Johnson, E. R. H. Jones, H. P. Koch, J. T. McCombie, and A. Spinks. (To be read by Dr. E. R. H. Jones.)

Thursday, November 19th, 1942, at 2.30 p.m.

The **Sir William Bragg Memorial Lecture,** by Professor J. D. Bernal, D.Sc., F.R.S. (in the Lecture Theatre of the Royal Institution, by kind permission of the Managers). Tickets of admission will not be required.

Thursday, December 17th, 1942, at 2.30 p.m.

Tilden Lecture on "Recent Developments in the Theory of Reaction Kinetics in Solution," by Mr. R. P. Bell, M.A., B.Sc.

OUTSIDE LONDON.

EDINBURGH.

Tuesday, December 1st, 1942, at 7 p.m.

Lecture on "Molecules and Crystals," by Professor J. Monteath Robertson. Joint Meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Medical Chemistry Lecture Theatre, The University, Teviot Place.

GLASGOW.

Monday, November 16th, 1942, at 3.30 p.m.

Lecture on "Thermal Diffusion," by Professor James Kendall, F.R.S. Joint Meeting with the Andersonian Chemical Society and the Glasgow University Alchemists' Club. To be held at the University.

Friday, December 4th, 1942, at 7.15 p.m.

Lecture on "X-ray Study of Coalification and Carbonisation," by Professor H. L. Riley. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held at the Royal Technical College.

LEEDS.

Monday, October 12th, 1942, at 6.30 p.m.

Lecture on "Radioactive Isotopic Indicators," by Dr. F. Fairbrother. To be held in the Chemistry Lecture Theatre of the University (Woodhouse Lane entrance only).

NORTH WALES.

Friday, November 27th, 1942, at 5.30 p.m.

Lecture on "Absorption Spectra as an aid to Research in Organic Chemistry," by Dr. A. E. Gillam. To be held in the Lecture Theatre, University College of North Wales, Bangor.

SHEFFIELD.

Friday, November 20th, 1942, at 5.30 p.m.

Lecture on "Some Kinetic Problems in Heterogeneous Systems," by Dr. E. A. Moelwyn-Hughes. Joint meeting with the University of Sheffield Chemical Society. To be held in the Chemical Lecture Theatre of the University, Western Bank.

SOUTH WALES.

Saturday, November 14th, 1942, at 3.15 p.m.

In Cardiff.

Lecture on "The Mechanism of Polymerisation," by Professor H. W. Melville, D.Sc., F.R.S. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held at the University College, Cathays Park.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL NOTICE.

The Council deeply regret to announce that the death of Mr. F. W. Clifford, the Librarian, took place suddenly in his sleep on Monday, 21st September. He was absent from the Library from the previous Wednesday evening owing to an attack of Gastritis; death was due to Angina Pectoris.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, October 12th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Beattie, Arthur Leonard, B.Sc. (Lond.), A.I.C. British. 8, Thorpewood Avenue, Sydenham, S.E. 26. Senior Assistant Works Chemist. *Signed by :* Donald C. Garratt, F. S. Aumonier, J. J. Fox.

Bennett, William Frederick, B.Sc. (Lond.), A.I.C. British. 27, Briardale Road, Woodhey, Rock Ferry. Chemist. *Signed by :* J. J. Fox, B. A. Ellis, R. Leslie Collett.

***Berg, Samuel Sidney,** B.Sc. (Lond.), 4 years as Assistant in Research Laboratories. British. 2, Westwood Road, Tilehurst, Reading. Research Chemist. *Signed by :* George Newbery, Julius N. Ashley, H. J. Barber.

Boardman, William, F.I.C. British. Trout Brook House, Pleasington, Blackburn. Works Manager. *Signed by :* H. W. Cremer, F. Bell, L. A. Jordan.

***Brian, Robert Coles,** B.Sc.Hons. (Sheffield). British. Pant-yr-Eos, Dalton Magna, Nr. Rotherham. Research Student at Sheffield University. *Signed by :* R. D. Haworth, J. C. Speakman, Arthur W. Chapman, T. B. Smith.

Burnett, Robert McDonald, B.Sc.Hons. (Edin.), A.I.C. British. 8, Galladale Drive, Newtongrange, Midlothian. Army. *Signed by :* E. G. V. Percival, Neil Campbell, Christina C. Miller.

Burrough, Ernest James. British. Hutton Road, Lambeth, S.E. 11. Director and Secretary of a Distillery. *Signed by :* Leslie H. Lampitt, Charles H. F. Fuller, E. B. Hughes.

Burton, John Headland, B.Sc. (Lond.), F.I.C. British. 33, Ranulf Croft, Coventry. Analytical Chemist. *Signed by :* W. H. Glover, J. J. Fox, H. Paul.

Cuthbertson, William Francis Jack, B.Sc. and Ph.D. (Lond.), A.I.C. British. University College, Leatherhead. Demonstrator in Biochemistry. *Signed by :* J. C. Drummond, A. L. Bacharach, G. Roche Lynch.

Edwards, Edward Lawrence. 40 years' experience. English. 32, Greenhill, Evesham. Director and Chemist of Edwards & Bent, Ltd., Horticultural Chemists, Evesham. *Signed by :* Leslie H. Lampitt, P. Bilham, E. B. Hughes.

Eichner, Manfred Josef, Engineer of Chemistry, Universities of Vienna and Zurich, Tech. Hochschule, Brno. Czechoslovakian. 9, Warrington Crescent, W. 9. Research Chemist. *Signed by :* W. Wilson, Frank W. Stoyle, J. A. R. MacLean.

Elkin, Hugh Arthur, B.A., M.Sc. (Trinity College, Dublin), A.I.C. British. 92, Bay Street, Port Glasgow. Technical Manager. *Signed by :* Emil A. Werner, Kenneth C. Bailey, F. P. Dunn.

Ferguson, Alec Munro, M.A. (Cantab.), B.Sc. (Lond.), A.I.C. British. 91, Tring Road, Aylesbury. Analytical and Control Chemist. *Signed by :* R. G. W. Norrish, H. McCombie, B. G. Saunders.

Field, John Allen Joseph. British. Chellowdean, Woodside Green, S.E. 25. Staff Officer in Land Forces. *Signed by :* Leslie H. Lampitt, E. B. Hughes, C. A. Bassett.

Fuller, Albert Henry, A.I.C., Diploma—Leeds College of Technology. British. 68, Herkomer Road, Bushey. Deputy Chief Chemist, Calne Valley Water Co. *Signed by :* Leslie H. Lampitt, E. B. Hughes, C. A. Bassett.

Gailer, John William, B.Sc.Hons. (Lond.), Diploma in Science and Chemistry of Wigan and District Mining and Technical College. Analytical Chemist for five years in Admiralty Chemical Post, Established Civil Servant. British. 159, Gristhorpe Road, Selly Oak, Birmingham, 29. In charge of Laboratory Work on Chemical Inspection. *Signed by :* F. W. Pinkard, F. Smith, W. J. Hickinbottom, M. Stacey.

Gladstone, Michael Nairn, B.Sc.Hons. (Lond.), A.I.C. British. 21, Haverhill Road, Stapleford. Research Chemist. *Signed by :* W. Lewcock, W. A. Voss, R. H. Griffith.

***Gollin, Alban William James,** 3rd year student, Royal College of Science, Graduating July 1942. British. 14, Shepherds Gardens, Shepherds Bush, W. 12. Student. *Signed by :* H. V. A. Briscoe, A. A. Eldridge, H. J. Emeléus.

***Green, Tom,** A.M.C.T., Higher National Certificate in Chemistry, now studying for B.Sc. and A.I.C. Registered Student of Institute of Chemistry. British. 65, Nicolas Road, Chorlton-cum-Hardy, Manchester, 21. Assistant Technical Chemist. *Signed by :* John K. Wood, R. F. Garwood, T. K. Walker.

Heron, Harry, B.Sc. (Lond.), A.I.C., A.M.I.Chem.E. British. Doonbrae, Bishopton, Renfrew. Chemical Engineer. *Signed by :* Leslie H. Lampitt, E. B. Hughes, C. A. Bassett.

***Herringshaw, John Francis.** British. Yelton Hotel, White Rock, Hastings. 3rd year Student, Royal College of Science. *Signed by :* H. V. A. Briscoe, J. A. Kitchener, H. J. Emeléus.

Hird, Samuel Arnold, A.I.C. British. Oak Lea, Cleasby Road, Menston, Nr. Leeds. Chemist and Works Manager. *Signed by :* H. H. Hodgson, Leslie H. Lampitt, P. Bilham.

Howat, David Dickie, B.Sc. and Ph.D. (Glas.), A.I.C. British. 36, Elgar Circle, Newport. Metallurgist. *Signed by :* F. Rumford, W. M. Cumming, I. V. Hopper.

Ireland, Joseph Thomas, B.Sc.Hons. (L'pool), A.I.C. British. 339, Brodie Avenue, Liverpool, 19. 2nd Lt., R.A.O.C., Radio Maintenance Officer. Late Senior Leverhulme Research Fellow. *Signed by :* J. J. Fox, R. Leslie Collett, B. A. Ellis.

Johnson, Edgar Bert, M.Sc. (Birm.), F.I.C. British. Brae Lodge, Lonsdale Place, Uttoxeter Road, Derby. Research Chemist. *Signed by :* C. E. Wood, F. W. Pinkard, S. D. Nicholas.

Miles, Sidney Edgar, B.Sc.Hons. (Sheffield). British. 15, Medina Avenue, Esher. Technical Assistant, I.C.I., Ltd. *Signed by :* M. P. Applebey, R. D. Haworth, A. W. Taylor, Arthur W. Chapman.

Muir, William, B.Sc. and Ph.D. (Edin.), A.I.C. British. 35, Polefield Road, Blackley, Manchester, 9. Technical Chemist. *Signed by :* Neil Campbell, Christina C. Miller, Mowbray Ritchie.

Murray, Alexander Frederick, B.Sc. (Glas.), A.I.C. British. Red-carr, Menstrie. Managing Director, Preserves and Food Manufacturers. *Signed by :* W. J. Skilling, F. J. Wilson, T. S. Stevens.

Penny, Joseph Ashburner, Trained Analytical Chemist. J.P. British. Corra-Linn, Abbot's Road, Grangemouth. General Manager of Soap, Glycerine and Candle Works. *Signed by :* Leslie H. Lampitt, P. Bilham, E. B. Hughes.

Potter, Ronald Surman, B.Sc.Hons. (Birm.), F.I.C. British. 532, City Road, Edgbaston, Birmingham, 17. Works Manager and Chemist. *Signed by :* S. R. Carter, R. H. Hopkins, M. Stacey, Stanley Peat.

Pritchard, Gordon James, B.Sc. and Ph.D. (Lond.), A.I.C. British. Holt Lodge, 95, Higher Road, Hunts Cross, Nr. Liverpool. Production Chemist. *Signed by :* J. J. Fox, I. M. Heilbron, F. S. Aumonier.

***Pugh, Victor Charles,** Studying for degree in Chemistry at Cambridge University. English. 42, Colebrooke Drive, Wanstead, E. 11. About to enter the Royal Artillery. *Signed by :* B. C. Saunders, N. B. Chapman, H. McCombie.

Revis, Frank Leonard Bingham, A.C.G.F.C., F.I.C. British. 7, Dolphin Road, Glasgow, S. 1. Chemist. *Signed by :* J. J. Fox, J. R. Nicholls, R. Leslie Collett.

Richmond, Frederick Walter, B.Sc. (Birm.). British. Westmeads Works, Whitstable. Metallurgical Chemist. *Signed by :* S. D. Nicholas, C. E. Wood, F. W. Pinkard.

Shanahan, Cyril Edmund Arthur, B.Sc.Hons. (Lond.), A.I.C. 5 years' chemical apprenticeship. British. 38, Murray Road, Rugby. Research Chemist. *Signed by :* J. S. Wignall, R. Leslie Collett, A. T. Ward.

Silverman, Israel Reuben, B.Sc. (Manc.). British. 3, Waterpark Road, Broughton Park, Salford, 7. Food Chemist and Technical Manager. *Signed by :* H. E. Cox, G. N. Burkhardt, A. E. Gillam.

Smith, Mervyn Leslie, B.Sc. and Ph.D. (Lond.), A.I.C. British. 18, Dean Road, Rhosnessney, Wrexham. Industrial Chemist. *Signed by :* F. G. Dunton, F. S. Aumonier, J. J. Fox.

Summers, Donald, Ph.D. (Lond.), A.I.C. British. 65, Fairfield Road, Stockton-on-Tees. Chemist (Heavy Chemical Industry). *Signed by :* M. P. Applebey, A. Eric J. Vickers, H. N. Wilson.

Tully-Turner, Raymond, B.Sc. (Lond.), A.I.C. British. 71, Prenton Road East, Birkenhead. Chemist. *Signed by :* J. J. Fox, F. S. Aumonier, I. M. Heilbron.

Ward, George, B.Sc.Hons. (Lond.), A.I.C. British. 61, Milburn Crescent, Norton-on-Tees. Chemist and plant manager. *Signed by :* A. W. Taylor, M. P. Applebey, J. G. M. Bremner.

***Watts, Charles Frederick,** J.M.B. Matriculation, Higher School Cert., Inter B.Sc. British. 65, Beresford Avenue, Foleshill, Coventry. Laboratory Assistant. *Signed by :* Walter H. Glover, H. Paul, Ernest N. Johnson.

West, Frederick Charles, B.Sc.Eng. (Lond.). British. Caprino, Winchester Road, Chadlee's Ford, Eastleigh. Company Director. *Signed by :* Leslie H. Lampitt, P. Bilham, E. B. Hughes.

Williams, Edward Thomas, M.Sc. (L'pool), A.I.C. British. 40, Tudorville Road, Bebington. Chief Analytical Chemist to Lever Bros. *Signed by :* B. D. W. Luff, Francis W. Kay, A. McGookin.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Austin, James August, A.B. (William Jewell Coll.), work on M.A. (Univ. of Kansas) practically completed. Member, American Chemical Society and of Missouri Academy of Science. American. 580 West Pennway, Kansas City, Missouri. Chief Chemist in charge of Pharmaceutical Division. *Signed by :* Harold P. Brown.

Buis, Marinus. Technologist, Delft University. Dutch. Kimble, Chester Road, Whitby, Wirral. *Signed by :* L. Belchetz, J. Kewley.

Deutsch, Berthold, Dipl. Ing. (Vienna). Austrian. 9, Helenslea Avenue, N.W. 11. Research and Consulting Chemist. *Signed by :* M. C. Schaul, H. E. Cox.

Evans, Ralph Liggett, B.S. (Chicago), Ph.D. (Columbia). American. Garner Lane, Bay Shore, Long Island, New York. Executive Chemist. *Signed by :* Foster Dee Snell.

Gillespie, Wilbur Frederick, B.Sc. (Queen's Univ., Ont.). American. 10, Founder's Drive, Bogalusa, Louisiana. Technical Director. *Signed by :* Foster Dee Snell.

Mittal, Dil Bahar Singh, M.Sc. (Agra). Indian. Rewari, India. Student for the B.T. Degree at the Central Training College, Lahore. *Signed by :* H. Krall.

Pokorny, Ernest Adalbert, D.Sc. (Vienna). Austrian. 115, Cholmley Gardens, 5, Fortune Green Road, N.W. 6. Consulting Engineer. *Signed by :* Denis E. Wheeler, J. Kenyon.

Tandler, Rudolf, D.Sc. (Vienna). Czechoslovakian. 4, College Court, College Crescent, N.W. 3. Chemist to a firm of Chemical Manufacturers. *Signed by :* Pavel Kohn, Gerald Druce.

Worsley, Richard Robert Le Geyt, B.Sc. and Ph.D. (Lond.), D.I.C., A.R.C.S. British. Amani, Tanga, Tanganyika. Biochemist at East African Agricultural Research Station. *Signed by :* H. J. Emeléus.

* Reduced annual subscription.

PAPERS RECEIVED.

List of papers received between June 18th and September 17th, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Vital stains. Part I." By A. A. GOLDBERG.

"An interpretation of the Sandmeyer reaction. Part III. Further evidence in favour of a mechanism involving anionoid halogen." By H. H. HODGSON, S. BIRTWELL, and J. WALKER.

"The structure of proteins." By W. HARRISON.

"The identity of laguncurin, kino-yellow and maclurin." By M. NIERENSTEIN.

"The associating effect of the hydrogen atom. Part XI. Hydrogen bonds involving the sulphur atom. The S–H–N bond." By G. HOPKINS and L. HUNTER.

"Indeno-2 : 3 : 2′ : 1′-benzanthrone." By G. SWAIN and A. R. TODD.

"Isothionic acid." By A. A. GOLDBERG.

"The influence of the 5-nitro-group on the halogenation and nitration of 5-nitro-1-naphthylamine and of some 5-nitro-1-naphthalides." By H. H. HODGSON and H. S. TURNER.

"New syntheses of heterocyclic compounds. Part I. 2 : 3-Dimethylquinoline and 1 : 2 : 3 : 4-tetrahydroacridine." By V. A. PETROW.

"New syntheses of heterocyclic compounds. Part II. Substituted tetrahydroacridines and 2 : 3-dimethylquinolines." By V. A. PETROW.

"Some alkyl benzoquinols and related compounds." By A. H. COOK, I. M. HEILBRON, and F. B. LEWIS.

"Experiments on the synthesis of substances related to the sterols. Part XL. (*a*) The preparation of 2 : 7-dihydroxyphenanthrene and certain derivatives. (*b*) Further observations on the reduction of 1-γ-ketobutyl-2-naphthol." By J. W. CORNFORTH and SIR ROBERT ROBINSON.

"Cannabis Indica. Part XI. An examination of the alkali-soluble portion of American hemp resin." By (MRS.) A. MADINAVEITIA, P. B. RUSSELL, and A. R. TODD.

"*p*-Aminodimethylaniline. Part II. The *o*-chloro- and -nitro-derivatives." By E. E. AYLING, JOHN H. GORVIN, and L. E. HINKEL.

"The preparation of symmetrical azo-compounds, the positional influence of the nitro-group on the decomposition of nitronaphthyldiazonium sulphates by cuprous hydroxide, and an improved method for the production of β-nitronaphthalene." By H. H. HODGSON, E. LEIGH, and G. TURNER.

"The preparation of β-tetralone from β-naphthol and some analogous transformations." By J. W. CORNFORTH, (MRS.) R. H. CORNFORTH, and SIR ROBERT ROBINSON.

"The mechanism of additions to double bonds. Part XIV. The nature of the activated complex in bimolecular diene syntheses." By A. WASSERMANN.

"Homogeneous catalysis of diene syntheses. A new type of third-order reactions." By A. WASSERMANN.

"Solvent effects in association equilibria." By A. WASSERMANN.

"Homogeneous catalysis and solvent effects in a diene synthesis." By A. WASSERMANN.

"Tetra-aryl phosphonium, arsonium, and stibonium salts. Part II. The mechanism of their formation by the aluminium chloride reaction." By D. R. LYON and F. G. MANN.

"A method of preparation of certain β-substituted indoles." By (MRS.) R. H. CORNFORTH and SIR ROBERT ROBINSON.

"Nuclear methylation of phenols by means of methanolic sodium methoxide." By J. W. CORNFORTH, (MRS.) R. H. CORNFORTH, and SIR ROBERT ROBINSON.

"The triterpene resinols and related acids. Part XIV. The oxidation of acetylursolic acid." By E. S. EWEN and F. S. SPRING.

"Decalin-1 : 5-dione and 2 : 2′-diketodi*cyclo*pentyl." By B. J. F. HUDSON and SIR ROBERT ROBINSON.

"The crystal structure of phosphorus pentachloride." By D. CLARK, H. M. POWELL, and (independently) A. F. WELLS.

"Photo-oxidation of non-ionisable thioketones in the presence of sunlight." By A. SCHONBERG and A. MOSTAFA.

"The cleavage of the ethylene linkage by the action of thionyl chloride." By A. SCHÖNBERG and (MISS) W. ASKER.

"Synthesis of phthalides from 3 : 4 : 5-trimethoxybenzoic acid." By F. E. KING and T. J. KING.

"The aqueous hydrolysis of sodium phenylbromoacetate and sodium phenylchloroacetate." By W. R. BULCRAIG and the late H. M. DAWSON.

"The halogenation of phenolic ethers and anilides. Part XIII. Arrhenius activation energies for di- and poly-substituted aromatic ethers." By BRYNMOR JONES.

"Taurine." By A. A. GOLDBERG.

"Absorption spectra and the structures of pyrethrins. Parts I and II." By A. E. GILLAM and T. F. WEST.

"Studies on agar-agar. Part III." By E. G. V. PERCIVAL and T. G. H. THOMSON.

"Reactions of chloral and its hydrate with *p*-cresol." By M. P. BALFE and W. C. WEBBER.

"5-Hydroxyindole." By F. BERGEL and A. L. MORRISON.

"On the oxidation of adrenaline." By F. BERGEL and A. L. MORRISON.

"Sapogenins. Part XVII. The position of the carboxyl group in oleanolic and glycyrrhetic acids." By G. A. R. KON and W. C. J. ROSS.

"Synthesis of 4-hydroxy-2-naphthoic acids." By R. D. HAWORTH, BRYNMOR JONES, and MISS Y. M. WAY.

"The preparation of 1-(*p*-aminobenzenesulphonamido)-2 : 5-dimethylpyrrole." By E. O'FARRELL WALSH.

CHNOLOGY DEPT.

October, 1942

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, November 19th, 1942, at 2.30 p.m.

The **Sir William Bragg Memorial Lecture,** by Professor J. D. Bernal, D.Sc., F.R.S. (in the Lecture Theatre of the Royal Institution, by kind permission of the Managers). Tickets of admission will not be required.

Thursday, December 17th, 1942, at 2.30 p.m.

Tilden Lecture on "Recent Developments in the Theory of Reaction Kinetics in Solution," by Mr. R. P. Bell, M.A., B.Sc.

OUTSIDE LONDON.

EDINBURGH.

Tuesday, December 1st, 1942, at 7 p.m.

Lecture on "Molecules and Crystals," by Professor J. Monteath Robertson. Joint Meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Medical Chemistry Lecture Theatre, The University, Teviot Place.

GLASGOW.

Thursday, November 12th, 1942, at 3.30 p.m.

Lecture on "Thermal Diffusion," by Professor James Kendall, F.R.S. Joint Meeting with the Andersonian Chemical Society and the Glasgow University Alchemists' Club. To be held in the University.

Friday, December 4th, 1942, at 7.15 p.m.

Lecture on "X-ray Study of Coalification and Carbonisation," by Professor H. L. Riley. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Royal Technical College.

LIVERPOOL.

Saturday, November 21st, 1942, at 23.0 p.m.

Lecture on "Chemical Education in the Post-War Period," by Dr. R. A. Morton. Joint Meeting with the Local Section of the Institute of Chemistry. To be held at Reece's Restaurant, Parker Street.

NORTH WALES.

Friday, November 27th, 1942, at 5.30 p.m.

Lecture on "Absorption Spectra as an aid to Research in Organic Chemistry," by Dr. A. E. Gillam. To be held in the Lecture Theatre, University College of North Wales, Bangor.

SHEFFIELD.

Friday, November 20th, 1942, at 5.30 p.m.

Lecture on "Some Kinetic Problems in Heterogeneous Systems," by Dr. E. A. Moelwyn-Hughes. Joint meeting with the University of Sheffield Chemical Society. To be held in the Chemical Lecture Theatre of the University, Western Bank.

SOUTH WALES.

Saturday, November 14th, 1942, at 3.15 p.m.

In Cardiff.

Lecture on "The Mechanism of Polymerisation," by Professor H. W. Melville, D.Sc., F.R.S. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held at the University College, Cathays Park.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, London, W.1, on Thursday, October 15th, 1942, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

The minutes of the Scientific Meeting on May 21st, 1942, were taken as read, and were confirmed and signed.

The PRESIDENT referred to the loss sustained by the Society, through death, of Professor Dr. Richard Willstätter, Honorary Fellow, of Professor G. G. Henderson, Past-President, and of Mr. F. W. Clifford, Librarian, and stated that the Council had passed the following resolutions:

The Officers and Council of the Chemical Society deeply regret the death on the 3rd August, 1942, of Richard Willstätter, who was elected an Honorary Fellow of the Society in April 1937.

His researches on the Structure and Synthesis of Cocaine and of Atropine at the early age of 30 singled him out as a chemist of outstanding ability, and his later researches, particularly his work on the Chlorophylls, on the Anthocyanins and on the Constitution of the Enzymes placed him among the great Organic Chemists of the age.

The Council record their high appreciation of the eminent services he has rendered to the progress of Science, and are proud that his name has been inscribed on the list of Faraday Lecturers of the Chemical Society.

They express their sincere sympathy to his daughter in the irreparable loss she has sustained.

The Officers and Council of the Chemical Society learn with profound regret at their meeting on the 15th October of the death on the 28th September, 1942, of their distinguished Past-President, George Gerald Henderson.

They express their high appreciation of the services he has rendered to the Science of Chemistry by his original investigations in Organic Chemistry and also by the far reaching influence he exerted as a great Teacher of Chemistry in his native City of Glasgow, over a period of 53 years.

Henderson had the distinction of serving as President of each of the three Chartered Chemical Bodies representing the Science and Practice of Chemistry in this Country, and the Council record with gratitude the wisdom and sagacity he manifested in guiding the affairs of this Society.

The Council experience a sense of deep personal sorrow in the loss of a revered and beloved colleague, and desire to convey their sympathy to his sister in her great loss.

The Council learn with deep regret at their meeting on 15th October, 1942, of the death on September 21st of Mr. F. W. Clifford, who was appointed Librarian to the Society in 1903.

Throughout the 39 years Mr. Clifford has held this office, his intimate knowledge of the Library has ever been placed freely at the disposal of Fellows and others using the Library and has been of inestimable value to all those engaged in the profession and practice of Chemistry.

The Council record their high appreciation of the outstanding services he has rendered not only to this Society but to all Chemists and give grateful thanks for his devotion to the duties of his office.

They desire to convey their sincere sympathy to Mrs. Clifford and her son in the irreparable loss they have sustained.

The company present stood while the resolutions were read.

The PRESIDENT also referred to the loss sustained by the Society, through death, of the following Fellows:

	Elected.	Died.
Francis William Clark	1913	Reported missing.
Carleton Ellis	1917	January 13th, 1941.
Llewellyn Garbutt	1883	January 30th.
John Cyril Jennings.	1914	March 3rd.
Frederic Samuel Kernick	1930	August 28th.
Avigdors Lifsics	1938	Killed in action.
Albert Nash	1919	August 3rd.
Charles Smart Roy	1915	September 17th.
William Selby Simpson.	1886	April 18th.
George Percy Darnell-Smith	1892	April 10th.
Charles William Truelove	1909	July 24th.
Thomas John Underhill	1889	July 24th.
Arthur Robert Warnes	1918	August 25th.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: R. A. Raphael, G. G. Rose, T. F. M. Smart, Charles W. S. Taylor, Rudolf Ungar, Peter Koch, and M. B. Green.

The following papers were read:

"The crystal structure of phosphorus pentachloride." By D. CLARK, H. M. POWELL, and (independently) A. F. WELLS.

"The formation and structure of some organic molecular compounds." By J. WEISS.

"Alkyl oxygen fission in carboxylic esters. Part II. Derivatives of *p*-methoxybenzhydrol." By M. P. BALFE, M. A. DOUGHTY, J. KENYON, and R. POPLETT.

"Studies in the polyene series. Parts V, VI, and VII. An account of recent work directed towards the synthesis of vitamin A and analogous compounds." By I. M. HEILBRON, A. W. JOHNSON, E. R. H. JONES, H. P. KOCH, J. T. MCCOMBIE, and A. SPINKS.

OFFICIAL ANNOUNCEMENTS

RESEARCH FUND.

Hitherto, the Research Fund Committee has met in December of each year to consider applications for grants from the Research Fund. In view of present conditions, however, the Council have decided that for the present applications for grants shall be considered as and when received. Forms of application for grants are obtainable from the General Secretary.

All those who have received grants, accounts of which have not been closed, are reminded that reports should be sent to the General Secretary as soon as possible and in any case not later than Monday, 16th November.

LIBRARY.

The Council have decided that Mr. A. E. Cummins (Sub-Librarian) shall serve as Acting Librarian pending the appointment of a Librarian.

ACKNOWLEDGEMENTS.

The Council have expressed their thanks to Miss E. M. James and Mrs. R. V. Pitt-Rivers for gifts of publications of the Society, to the Chemical Council for grants of £1000 towards the cost of the Society's publications for 1942 and £50 towards the cost of publishing Summaries of Papers for 1942, and to the Faraday Society and the Society of Dyers and Colourists for contributions of £26 5*s*. 0*d*. and £10 10*s*. 0*d*. respectively, towards the maintenance of the Library for 1942.

APPEAL FOR PUBLICATIONS OF THE SOCIETY.

To assist in building up reserve stocks of publications of the Society that will be required to replace those lost by libraries, institutions and individuals as the result of enemy action, the Council will welcome gifts of the following publications of the Society from Fellows who do not need to retain them for reference purposes:

Journal.

1862–1870 (inclusive)	1892	1911–1913 (inclusive)
1880	1895	1918–1920 (inclusive)
1884	1897	1925
1885	1901–1903 (inclusive)	1939 onwards
1889		

Abstracts "A."

1925
1926
1927 (index only)
1939 onwards

Annual Reports.

Vol. VIII (1911)
„ IX (1912)
Vol. X (1913)
„ XXIX (1932)
Vol. XXXVI (1939)
„ XXXVII (1940)
Vol. XXXVIII (1941)

FELLOWSHIP.

The following new Fellows have been elected :

On July **16*th*, 1942.**

Ronald Bernard Collins.
Harold Albert Hadleigh Crowther.
Alan Edward Flood.
Markus Guggenheim.
Eric James Holland.
James Tyldesley Kendall.
Anthony Winnington Leftwich.
Stanley Frederick Nicholls.
Thomas Fraser Mackenzie Smart.
Reginald Killmaster Stratford.
Charles Walter Selkrig Taylor.
Walter Frederick Waters.
Harold Webster.
Norman Tagg Woombs.

On September **17*th*, 1942.**

Edward William Bolton.
Geoffrey Arthur Holmes Bosley.
John Edward Bridges.
Walter Alfred Broom.
Daniel McGillivray Brown.
Hugh Mills Bunbury.
Gerald Bernard Cook.
Joan Muriel Currington.
Werner David.
Robert Ronald Davies.
Roland Edwin Dickinson.
Arthur Norman Dunsby.
Frances Mary Feetham.
John Fell.
Hermann Carl Fleischer.
William Stuart Fraser.
Elizabeth Mary Frith.
Arthur Turner Grisenthwaite.
Mark Guter.
Keith Graham Arthur Hammer.
Henry Guy Harvey.
Thomas Percy Hoar.
George Milnes Horner.
Wynne Hughes.
Kenneth Armitage Hyde.
Joseph Fox Jackson.
Richard Owen Jones.
Bertha Edith Judge.
Heinz Peter Koch.
George Lewi.
Francis William Lewis.
Colin Lindley.
Thomas Stanley McRoberts.
David Henry James Martin-Jones.
Harold Mennell.
Ronald William Morton.
Laurance Alan Mounter.
Alick Robert Munden.
William Alexander Gardiner Nelson.
Leslie Charles Alfred Nunn.
John Ormston.
Edgar Stagg Pemberton.
Walter Manuel Temple Perkins.
Thomas Bruce Philip.
Claus Wolfgang Picard.
Henry Tremayne Pinnock.
Bruno Puetzer.
Jacob Rabinovitch.
Gilbert Neil Revie.
Bruno Albert Rewald.
Edward Frank Richardson.
Edwin Claxton Roper.
Kenneth Schofield.
Francis Schollick.
Herbert Daymond Segrove.
Ronald Gordon Shuttleworth.
John George Sloan.
Rolf Herbert Stein.
Isaac Stern.
Cyril Oswald Main Steward.
Kossy Strauss.
William Oliver Sykes.
Henry William Thompson.
Lilian May Turton.
Julius Erwin Underwood.
Marcus Vahrman.
Ernest Henry Volwiler.
Bernard Vos.
Thomas Morgan Walters.
Arthur James Warner.
Joseph George Weighall.
Philip Charles Wheeler.
John Alexander White.
Bertrand Ernest Wilde.
Alexander Stewart Wilkie.
Edward Manwaring Wilkins.
Fred Wilkinson.
Wilfrid Eric Willmott.

On October **15*th*, 1942.**

James August Austin.
Arthur Leonard Beattie.
William Frederick Bennett.
Samuel Sidney Berg.
William Boardman.
Robert Coles Brian.
Marinus Buis.
Robert McDonald Burnett.
Ernest James Burrough.
John Headland Burton.
William Francis Jack Cuthbertson.
Berthold Deutsch.
Edward Lawrence Edwards.
Manfred Josef Eichner.
Hugh Arthur Elkin.
Ralph Liggett Evans.
Alec Munro Ferguson.
John Allen Joseph Field.
Albert Henry Fuller.
John William Gailer.
Wilbur Frederick Gillespie.
Michael Nairn Gladstone.
Alban William James Gollin.
Tom Green.
Harry Heron.
John Francis Herringshaw.
Samuel Arnold Hird.
David Dickie Howat.
Joseph Thomas Ireland.
Edgar Bert Johnson.
Sidney Edgar Miles.
Dil Bahar Singh Mittal.
William Muir.
Alexander Frederick Murray.
Joseph Ashburner Penny.
Ernest Adalbert Pokorny.
Ronald Surman Potter.
Gordon James Pritchard.
Victor Charles Pugh.
Frank Leonard Bingham Revis.
Frederick Walter Richmond.
Cyril Edmund Arthur Shanahan.
Israel Reuben Silverman.
Mervyn Leslie Smith.
Donald Summers.
Rudolf Tandler.
Raymond Tully-Turner.
George Ward.
Charles Frederick Watts.
Frederick Charles West.
Edward Thomas Williams.
Richard Robert Le Geyt Worsley.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, November 16th. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

***Barton, Derek Harold Richard,** B.Sc.Hons. (Lond.), A.R.C.S. British. Theydon, Hillside Drive, Old Road East, Gravesend. Research Student at Imperial College. *Signed by :* E. R. H. Jones, A. Spinks, W. Ross, G. A. R. Kon.

***Bates, William Abraham,** passed B.Sc. subsidiary (Lond.). British. 22, Kentish Road, Belvedere. Student at University College, Southampton. *Signed by :* Isbbel G. M. Campbell, K. R. Webb, S. H. Harper.

***Brand, John Charles Drury,** B.Sc.Hons. (Lond.). British. London House, Guilford Street, W.C. 1. Research Chemist. *Signed by :* G. M. Bennett, E. W. McClelland, Gwyn Williams.

Bray, Harold Geoffrey, B.Sc. and Ph.D. (Birm.). British. The Medical School, Hospitals Centre, Birmingham, 15. Lecturer in Biochemistry. *Signed by :* Stanley Peat, M. Stacey, W. V. Thorpe.

***Cartwright, Neville John,** B.Sc.Hons. (Sheffield). British. 65, Greenhead Lane, Chapeltown, Sheffield. Industrial Chemist. *Signed by :* R. D. Haworth, Brynmor Jones, J. C. Speakman, Alex H. Lamberton.

***Clement, Archibald George,** B.Sc.Hons. (Glas.). British. The Cedars, Bath Road, Taplow. Research Chemist. *Signed by :* Andrew Kent, S. Horwood Tucker, T. S. Stevens.

Denton, Cecil, A.I.C. British. 27, Oxford Avenue, Guiseley, nr. Leeds. Chief Control Chemist in works. *Signed by :* H. Kitchen, G. G. Bradshaw, B. Rushworth.

***Hardman, Eric.** Northern Universities Higher School Cert. British. 23, Old Lane, Hollinwood, Oldham. Undergraduate, Leeds University. *Signed by :* J. W. Baker, Alan Pollard, H. Taylor.

***Katan, Leonard Louis,** A.R.C.S., B.Sc.Hons. (Lond.) to be awarded in July, 1943, Royal Scholar. British. 49, Avondale Road, South Croydon. Research Student. *Signed by :* G. Ingle Finch, H. V. A. Briscoe, H. J. Emeléus.

Kent, Francis George, B.Sc. (Lond.), A.I.C., A.M.I.Chem.E. British. 161, Bank Street, Irvine. Chemical Engineer. *Signed by :* J. M. C. Thompson, W. P. G. Lewis, W. D. Whitaker.

***Lancaster, Douglas Winston,** B.Sc. (Lond.), A.I.C. British. 9, Eversley Crescent, Osterley. Chief Analyst to a Rubber Co. *Signed by :* A. G. Maddock, G. R. Martin, V. A. Petrow.

***Libman, Dennis David,** B.Sc. (Lond.), A.R.C.S. British. 135, Adelaide Road, N.W. 3. Assistant Research Chemist. *Signed by :* Julius N. Ashley, George Newbery, H. J. Barber.

***McCombie, John Talbot,** B.Sc.Hons. (Lond.), A.R.C.S. British. Royal College of Science, South Kensington, S.W. 7. Research Chemist. *Signed by :* E. R. H. Jones, A. W. Johnson, A. H. Cook, H. J. Emeléus, G. A. R. Kon.

***Macfarlane, Alistair Campbell,** B.Sc. (Leeds). British. 30, Park Road, Spondon, nr. Derby. Chemist. *Signed by :* Frederick Challenger, J. W. Baker, E. Rothstein, W. A. Wightman, H. Burton, F. R. Goss.

***Pattison, Frederick Lewis Maitland,** First Class Prelim. Exam. Nat. Sci. Tripos. British. Clare College, Cambridge. Reading for Part II of the Natural Sciences Tripos in Chemistry. *Signed by :* B. C. Saunders, N. B. Chapman, F. G. Mann.

***Pickering, Geoffrey Basil.** Hope to complete B.A. (Oxon) at end of the War. British. 4, Cavendish Place, Beeston. Research Chemist. *Signed by :* Ronald P. Bell, D. L. Chapman, C. Hurst.

Thomas, Iorwerth Bayley, Chemist and Druggist, M.P.S. British. Avalon, Western Avenue, Newport. Analytical Chemist. *Signed by :* W. D. Williams, N. M. Cullinane, W. H. Linnell.

Summers, Basil Charles Laurance, B.Sc. (Lond.), British. Brewhouse Bank, North Shields. Chief Chemist. *Signed by :* Richard Raper, Jos. Brown, J. C. Drummond.

***Wilding, Ivor Gordon Ellis,** Major Scholar at Clare College, Cambridge. British. Clare College, Cambridge. Reading for Part II of the Natural Sciences Tripos in Chemistry. *Signed by :* B. C. Saunders, N. B. Chapman, F. G. Mann.

Wilkinson, Samuel, M.Sc. (Manc.). British. 27, Hayes Way, Beckenham. Research Chemist. *Signed by :* A. E. Gillam, A. R. Todd, A. Parkinson.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Davis, Eric Gordon, B.Sc. (Lond.), F.I.C. British. Middlesex Road, Colonia, N.J. General Manager of a Works. *Signed by :* Samuel Smiles.

Skinner, Francis Walter, B.Sc. (Lond.), A.R.C.S., D.I.C., A.M.I.I.A. British. P.O. Box 909, Durban. Planning Officer to Works. *Signed by :* Charles Mills.

* Reduced annual subscriptions.

PAPERS RECEIVED

List of papers received between September 17th and October 15th, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The synthetic application of *o*-β-bromethylbenzyl bromide. Part I. Some sulphanilamide derivatives of 1 : 2 : 3 : 4-tetrahydro*iso*quinoline." By F. G. Holliman and F. G. Mann.

"The influence of *p*-substituents on the decomposition of some zinc chloride double salts of diazonium chlorides by acetic anhydride." By H. H. Hodgson and C. K. Foster.

"The action of cuprous oxide on diazotised amines in ethyl alcoholic acid solution." By H. H. Hodgson and H. S. Turner.

"Some notes on the condensation products of acetaldehyde." By E. E. Connolly.

"The polysaccharides of Carragheen Moss (*Chondrus crispus*). Part I. The linkage of the *d*-galactose residues and the ethereal sulphate." By J. BUCHANAN, E. E. PERCIVAL, and E. G. V. PERCIVAL.
"Some anilinopyridine derivatives." By W. O. KERMACK and (MISS) A. P. WEATHERHEAD.
"A rapid volumetric method for the determination of lead in brass." By P. M. FISK and F. F. POLLAK.
"The action of phosphorus pentachloride on non-symmetrically substituted acetones, and the spontaneous elimination of hydrogen chloride." By A. ZAKI and Y. ISKANDER.
"Syntheses in the naphthalene series. Part I. 1 : 3-Dihydroxynaphthalenes." By G. SOLIMAN and R. W. WEST.
"Syntheses in the naphthalene series. Part II. 3-Hydroxy-2-alkyl-1 : 4-naphthaquinones." By G. SOLIMAN and (in part) A. LATIF.
"Syntheses in the naphthalene series. Part III. 1-Hydroxy-2 : 3-benzfluorene and 4-hydroxy-2-methyl-5 : 6-benzcoumaran." By A. LATIF and G. SOLIMAN.
"Rare-earth metal amalgams. Part III. The separation of ytterbium from its neighbours." By J. K. MARSH.
"The nuclear alkylation of aromatic bases. Part V. The action of methyl alcohol on *m*-toluidine hydrochloride." By R. W. CRIPPS and D. H. HEY.
"β-3 : 4-Methylenedioxyphenyl*iso*propylamine." By J. ELKS and D. H. HEY.
"The nature of the amino-group in aminoacridines. Part I. Evidence from electrometric studies." By A. ALBERT and R. GOLDACRE.
"The nature of the amino-group in aminoacridines. Part II. Evidence from chemical reactions." By A. ALBERT and B. RITCHIE.

TECHNOLOGY DEPT.

November, 1942

LIBRARY
JAN 8 - 1943
DETROIT

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, December 17th, 1942, at 2.30 p.m.

Tilden Lecture on "Recent Developments in the Theory of Reaction Kinetics in Solution," by Mr. R. P. Bell, M.A., B.Sc.

Thursday, January 21st, 1943, at 2.30 p.m.

Meeting for the reading of original papers.

OUTSIDE LONDON.

EDINBURGH.

Tuesday, December 1st, 1942, at 7 p.m.

Lecture on "Molecules and Crystals," by Professor J. Monteath Robertson. Joint Meeting with the Edinburgh University Chemical Society and the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Medical Chemistry Lecture Theatre, The University, Teviot Place.

GLASGOW.

Friday, December 4th, 1942, at 7.15 p.m.

Lecture on "X-ray Study of Coalification and Carbonisation," by Professor H. L. Riley. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Royal Technical College.

NOTTINGHAM.

Saturday, January 23rd, 1943, at 3 p.m.

Lecture on "Vitamin A," by Dr. R. A. Morton. To be held in the Chemistry Lecture Theatre, University College, Shakespeare Street.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at the Royal Institution, Albemarle Street, W.1, on Thursday, November 19th, 1942, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

After a brief introduction, the PRESIDENT called on Professor J. D. Bernal, M.A., F.R.S., to deliver the Sir William Bragg Memorial Lecture.

At the conclusion of the Lecture, a vote of thanks to the Lecturer, proposed by Professor N. V. SIDGWICK and seconded by Professor A. C. G. EGERTON, was carried with acclamation.

The PRESIDENT expressed the Society's appreciation of the privilege of holding the lecture at the Royal Institution and proposed a vote of thanks to the Managers; this was passed unanimously.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Honorary Fellow.		
Max Bodenstein	1929	September 3rd.
Fellows.		
John Norman Collie	1885	November 1st.
William Richard Simpson Ladell	1906	November 6th.
Walter Odling	1873	November 17th.
Thomas Henry Poulson	1921	December 16th, 1941.
Reece Henry Vallance	1931	September 27th.

CONGRATULATIONS.

The PRESIDENT has conveyed the congratulations of the Council to Sir John Gustav Jarmay, who completed 60 years of Fellowship on November 16th, and to the following recipients of Royal Society Medals:

Copley Medal	Sir Robert Robinson.
Royal Medal	Professor W. N. Haworth.
Davy Medal	Professor C. N. Hinshelwood.

ACKNOWLEDGEMENTS.

The Council have expressed their thanks to the Society of Public Analysts for a contribution of £21 towards the maintenance of the Library for 1942 and to Mr. S. Hoare Collins and Lt.-Col. H. Paget for gifts of publications of the Society.

LIBRARY.

The Library will be closed on Christmas Day and Boxing Day, December 25th and 26th.

CONJOINT CHEMICAL OFFICE.

Payment of Annual Subscription 1943.

In accordance with the notice recently sent to Fellows, under the Scheme of Co-operation for the three Chartered Chemical Bodies (the Chemical Society, the Institute of Chemistry, and the Society of Chemical Industry), subscriptions of Fellows who wish to pay a Joint Membership Subscription (either three-body or two-body) should be paid to the Conjoint Office at 6, Burlington Gardens, W. 1, on or before January 1st, 1943, the date on which Subscriptions become due.

Subscriptions from Fellows, who wish to continue to pay the separate annual subscription to the Chemical Society, together with any sum due for extra publications, should be made payable to Messrs. Coutts & Co., 440, Strand, W.C. 2, and sent direct to them as heretofore. The form stating publications required should be completed and returned to the Conjoint Office.

Dispatch of Publications.

Arrangements in connection with the dispatch of the publications of the Chemical Society and the Society of Chemical Industry are now carried out at the Conjoint Office, and inquiries regarding the non-receipt of publications should be sent there. *Changes of address*, however, should be notified to the *General Secretary, The Chemical Society, Burlington House, Piccadilly, W.* 1, as heretofore.

FELLOWSHIP.

The following 22 candidates were elected Fellows on November 19th:

Derek Harold Richard Barton.
William Abraham Bates.
John Charles Drury Brand.
Harold Geoffrey Bray.
Neville John Cartwright.
Archibald George Clement.
Eric Gordon Davis.
Cecil Denton.
Eric Hardman.
Leonard Louis Katan.
Francis George Kent.
Douglas Winston Lancaster.
Dennis David Libman.
John Talbot McCombie.
Alistair Campbell Macfarlane.
Frederick Lewis Maitland Pattison.
Geoffrey Basil Pickering.
Francis Walter Skinner.
Basil Charles Laurence Summers.
Iorwerth Bayley Thomas.
Ivor Gordon Ellis Wilding.
Samuel Wilkinson.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, December 14th. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Anderson, William Nelson,** B.Sc.Hons. (Q.U.B.). British. 31, Wellington Park, Malone Road, Belfast. Senior Assistant in Chemistry Department, Queen's University. *Signed by:* H. Graham, A. W. Stewart, T. Stanley McRoberts, C. A. McDowell.

Atkins, William George, A.M.I.Chem.E. British. 69, Halford Road, Ickenham. Secretary, London Advisory Committee, Indian Jute Mills Association, Research Department. Chief Inspector for War Office and Ministry of Supply for proofing of Sandbags and allied Jute products. *Signed by:* E. F. Armstrong, G. R. Davies, F. H. Burstall, D. V. N. Hardy.

Bailey, Frank William, A.M.C.T., A.I.C. British. College of Technology, Manchester, 1. Lecturer in Paper Making. *Signed by:* T. K. Walker, G. Baddiley, O. Rhys Howell, John K. Wood.

Baldwin, Oscar Theodore, M.Inst.B.E. British. 78, Beechwood Gardens, Ilford. Proprietor of Manufacturing Chemists Tar Products Works. *Signed by:* Walter Lloyd Willey, John Knaggs, P. Parrish.

Constantine, Stella. British. Wharfdale Road, Tyseley, Birmingham, 11. Followed a Science course at Birmingham University, 1920—1922; passed examination in Chemistry, Course III. Chief Chemist. *Signed by:* S. R. Carter, S. D. Nicholas, C. E. Wood.

Eaton, Robert Turner, B.Sc.Hons. (Lond.), A.I.C. British. 28, Holme Lacy Road, Hereford. Assistant Manager. *Signed by:* G. W. Usherwood, Arthur I. Vogel, E. G. K. Pritchett, Garfield Thomas.

Gaunt, William Eric, B.Sc.Hons. and Ph.D. (Leeds), Diploma in Dyeing. British. 203, Hood House, Dolphin Square, S.W. 1. Chief Chemist, Ashe Labs., Ltd. & Associated Companies. *Signed by:* Charles S. Gibson, Frederick M. Rowe, H. Burton.

***Gilbert, Lionel Alfred,** B.Sc., A.R.C.S. (Lond.). English. 16, Lindfield Gardens, N.W. 3. Research Chemist. *Signed by:* H. J. Emeléus, E. R. H. Jones, H. V. A. Briscoe.

***Harris, Robert John,** London H.S.C., Inter. B.Sc., Subsid. B.Sc. British. Exeter Hall, 80, Pennsylvania Road, Exeter. Student at University College, Exeter; reading for B.Sc.Hons. Chemistry. *Signed by:* H. T. S. Britton, S. J. Gregg, R. King, P. T. Gilbert.

***Harris, Robert John Cecil,** B.Sc. (Lond.), A.R.C.S. British. 30, Cherry Orchard Way, Maidstone. Research Student at Imperial College. *Signed by:* E. R. H. Jones, G. A. R. Kon, A. H. Cook.

Hayes, Frank Wynn, A.I.C. British. Woodlands Avenue, Westville, Natal. Chief Chemical and Bacteriologist, Messrs. Huletts' S.A. Refineries, Ltd. *Signed by:* Leslie H. Lampitt, A. E. Dunstan, R. Leslie Collett.

Hoblyn, Edward Henry Treffry, Ph.D. (Lond.), A.R.C.S., D.I.C., A.I.C., A.M.I.Chem.E. British. Brantham Works, near Manningtree. Chemical Engineer. *Signed by:* Foster Sproxton, G. Swann, R. S. Colborne.

***Holmes, Derek.** Demyship (in Natural Science) at Magdalen College; State Scholarship. British. 97, Beckside Road, Lidget Green, Bradford. Chemistry Student at Magdalen College, Oxford. *Signed by:* F. E. King, L. E. Sutton, S. G. P. Plant.

***James, Arthur Montague.** London H.S.C. British. 57, Parkstone Avenue, Parkstone. Undergraduate at Balliol College, Oxford, reading for Honours Degree in Chemistry. *Signed by:* F. E. King, A. G. Ogston, Ronald P. Bell.

***McMullen, Arnold Ivor,** B.Sc.Hons. (Q.U.B.). British. Campsie, Ballygrainey, Bangor, Co. Down. Physical Chemistry research student at Cambridge University. *Signed by:* A. W. Stewart, H. Graham, C. H. Bamford.

Martin, Sidney Launcelot Hiam, M.Sc. (Lond.), D.I.C., A.R.C.S., A.I.C. British. 66, Streatham Court, S.W. 16. Research Chemist. *Signed by:* H. J. Emeléus, A. A. Eldridge, M. Carlton.

***Mess, David,** B.Sc. (Lond.) (Degree to be awarded in 1943). British. 48, Randolph Avenue, W. 9. Works Chemist. *Signed by:* J. R. Partington, K. Wallersteiner, H. D. K. Drew.

***Montgomery, Rex.** British. 36, Margaret Avenue, Halesowen, Birmingham. Student, Birmingham University. *Signed by:* Stanley Peat, W. N. Haworth, M. Stacey.

***Naylor, Ralph Francis,** B.Sc. (Lond.), A.R.C.S. British. 42, Barleycroft Road, Welwyn Garden City. Research Chemist. *Signed by:* A. H. Cook, I. M. Heilbron, E. R. H. Jones, E. H. Farmer.

***Newth, Frederick Howard.** British. 155, Masons Hill, Bromley. Student, Birmingham University. *Signed by:* Stanley Peat, M. Stacey, F. Smith.

***O'Mara-Bockris, John,** Subsidiary B.Sc. (Lond.). British. 23, Harrington Villas, Brighton, 6. Student. *Signed by:* W. H. Linnell, G. E. Watts, P. Haas.

Porter, Joseph William Geoffrey, B.A.Hons. (Cantab.). British. Emmanuel College, Cambridge. Research Student. *Signed by :* F. G. Mann, H. McCombie, B. C. Saunders, B. A. Kilby.

Rose, Francis Leslie, B.Sc. and Ph.D. (Lond.). British. 2, Preesall Avenue, Heald Green, Cheadle. Research Chemist. *Signed by :* W. R. Boon, R. Fraser Thomson, W. A. Sexton, E. H. Rodd.

Seath, William Henry, A.C.G.F.C., A.I.C. British. 8, Long Place, Pinelands, Cape, S.A. Chemist. *Signed by :* A. Herbert Spong, E. Newbery, Max Lamchen.

***Selton, Bernard,** B.A.Hons. (Oxon). British. 140, Daneland, Cat Hill, E. Barnet. Research Chemist. *Signed by :* Allan Domleo, Norman A. C. Friend, F. R. Webb.

Shorter, Alfred John, M.Sc. (Birm.), M.S. (Ill.), A.I.C British. South Broomage Avenue, Larbert. Chemist and Ceramist (refractory materials). *Signed by :* E. G. Beckett, F. Barrow, Wm. Wardlaw.

Shreir, Louis Lionel, A.I.C. British. 27, Summerlands Avenue, Acton, W. 3. Chief Chemist to Baker Platinum, Ltd. *Signed by :* J. C. Crocker, Douglas C. Harrod, E. C. Pickering.

***Sumner, James Frederick,** Inter.B.Sc. (Lond.). British. 83, Curzon Road, St. Annes-on-Sea. Chemist. *Signed by :* G. H. Whiting, C. A. McDowell, E. Booth.

Watson, James, B.A. (Cantab.) in December, 1942. British. Trinity College, Cambridge. Research Student. *Signed by :* F. G. Mann, H. McCombie, B. C. Saunders, B. A. Kilby.

***Whigham, William,** B.Sc.Hons. (Glas.). British. 26, New Bongate, Jedburgh. Research Chemist. *Signed by :* J. W. Cook, John A. Mair, James Bell.

***Workman, Robert Hugh Boyle,** B.Sc.Hons. (Q.U.B.). British. c/o Technical School, Portadown, Co. Armagh. Teacher of Experimental Physics, Mathematics, and Chemistry. *Signed by :* A. W. Stewart, R. W. Kinkead, H. Graham.

***Wren, William Lees.** Inter. Science (Lond.), 4½ years' experience in Industrial Chemistry. British. 46, Park Road, Chorley. Analytical Chemist. *Signed by :* T. J. Morrison, T. Heap, A. Cooksey.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between October 15th and November 19th, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Bromination of αβ-diphenylalkanes and the preparation of some stilbene derivatives. Part I. αβ-Diphenylethane." By S. Bance, H. J. Barber, and A. M. Woolman.

"Cuprous cyanide: A note on its preparation and use." By H. J. Barber.

"The preparation and therapeutic properties of certain acridine derivatives. Part III. 5-Styrylacridines and their quaternary salts." By W. Sharp, M. M. J. Sutherland, and F. J. Wilson.

"Some quinoline derivatives of sulphanilamide." By O. G. Backeberg and J. L. C. Marais.

"The polysaccharides of Iceland Moss (*Cetraria Islandica*). Part I. Preliminary study of the hemicelluloses." By H. Granichstädten and E. G. V. Percival.

"The constitution of agar. Part IV. Isolation of hepta-acetyl *dl*-galactose from 3 : 6-anhydro-β-methyl-*d*-galactoside." By T. L. Cottrell and E. G. V. Percival.

"The mechanism of indole formation from phenacylarylamines." By A. F. Crowther, F. G. Mann, and (in part) D. Purdie.

"Catalytic reduction by formic acid under pressure. Part I. The preparation of aldehydes from carboxylic acids with titanium dioxide as catalyst." By R. R. Davies and H. H. Hodgson.

"Physical properties and chemical constitution. Part VII. Alkyl sulphides, disulphides, sulphites, sulphates, and orthophosphates." By A. I. Vogel and D. M. Cowan.

"1 : 3 : 5 : 7-Tetranitronaphthalene and the isomeric tetranitro-derivatives obtained from 2 : 6-dinitronaphthalene by nitration." By J. Chatt and W. P. Wynne.

"The preparation and polymerisation of methyl vinyl ketone." By T. White and R. N. Haward.

"The mechanism of the oxidation of oleic and elaidic acids and their methyl esters by hydrogen peroxide in acetic acid. Further observations on the configurations of the 9 : 10-dihydroxystearic acids." By G. King.

"The cause of the variation of the colour of crystals of commercial sodium and potassium cyanoferrate (II)." By H. E. Williams.

"Dinitrodibenzanthrone." By D. J. Bennett, R. R. Pritchard, and J. L. Simonsen.

"The action of bases on 1-diazoanthraquinone-2-sulphonate and its derivatives." By J. I. Lynas-Gray and J. L. Simonsen.

"The nitrosation of phenols. Part XIX. The three cresols and their methyl ethers. Some semicarbazide reactions." By H. H. Hodgson and E. A. C. Crouch.

"Melanthigenin and its identity with hederagenin." By (Miss) Z. Mustafa and G. Soliman.

"The action of phosphoric oxide on phenyl esters. The mechanism of the Fries reaction." By A. Schönberg and (Miss) A. Mustafa.

"The cyclic methyleneimines: Preparation of aldehydes from hexamine. Part I." By J. Graymore.

"The anhydrides of basic amino-acids." By D. W. Adamson.

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMINC SCIENTIFIC MEETINGS

IN LONDON.

Thursday, January 21st, 1943, at 2.30 p.m.

The following papers will be read and discussed :—

" Substitution Reactions of Neopentyl Halides," by I. Dostrovsky and E. D. Hughes.

" The Mechanism of the Thermal Decomposition of Diacyl Peroxides in Solution in Organic Solvents," by A. E. Oxford.

Thursday, February 18th, 1943, at 2.30 p.m.

Tilden Lecture on " Aspects of Nucleotide Chemistry," by Professor J. M. Gulland, M.A., D.Sc.

MEETINGS OUTSIDE LONDON.

EDINBURGH.

Thursday, February 18th, 1943, at 7.30 p.m.

Lecture on " The Chemistry of Hashish," by Professor A. R. Todd, F.R.S. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held at the North British Station Hotel.

GLASGOW.

Friday, February 19th, 1943, at 7.30 p.m.

Lecture on " The Chemistry of Hashish," by Professor A. R. Todd, F.R.S. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Royal Technical College.

NORTH WALES.

Friday, February 26th, 1943, at 5.30 p.m.

Lecture on " Some Aspects of the Chemical Constitution of Milk Fats," by Professor T. P. Hilditch, F.R.S. To be held in the Lecture Theatre of the Chemistry Department, University College of North Wales, Bangor.

NOTTINGHAM.

Saturday, January 23rd, 1943, at 3 p.m.

Lecture on " Vitamin A," by Dr. R. A. Morton. To be held in the Chemistry Lecture Theatre, University College, Shakespeare Street.

SHEFFIELD.

Friday, February 26th, 1943, at 5.30 p.m.

Tilden Lecture on " Aspects of Nucleotide Chemistry," by Professor J. M. Gulland, M.A., D.Sc. Joint Meeting with the University Chemical Society. To be held in the Chemical Lecture Theatre of the University.

SOUTH WALES.

Saturday, February 13th, 1943, at 3 p.m.

Lecture on " The Reducibility of Oxides and Sulphides in the Extraction of Metals," by Dr. H. J. T. Ellingham. Joint Meeting with the University College of Swansea Chemical Society.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, W. 1, on Thursday, December 17th, 1942, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: F. Turner, B. Vos, L. J. Haynes, William A. Bates, G. A. Maw, and Miss Ethel Bidwell.

TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Mr. R. P. Bell to deliver his Tilden Lecture on "Recent Developments in the Theory of Reaction Kinetics in Solution."

At the conclusion of the Lecture, a vote of thanks, proposed by Professor F. G. Donnan, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Nicholas Eumorfopoulos	1894	December 9th.
John Hargreaves	1884	November 22nd.
Ivan Douglas Lamb	1938	November 26th.
Sir Henry Alexander Miers	1888	December 10th.
Norman Philip Millard	1926	October 12th.
William Gilchrist White	1893	November 17th.

RESOLUTION.

The Council have passed the following resolution of sympathy regarding the late Professor Max Bodenstein, Honorary Fellow:

"The President, Officers and Council have learned with deep regret of the death on September 3rd of Professor Max Bodenstein, who was elected an Honorary Fellow of the Society in October 1939.

"They record their high appreciation of the services he has rendered to the Science of Chemistry by his pioneer work in photochemistry and his investigation of the kinetics of gaseous reactions, and they mourn the loss of a distinguished colleague."

CONGRATULATIONS.

The PRESIDENT has conveyed the congratulations of the Council to the following:

	Elected.
60 years of Fellowship.	
Thomas Rennie Cowie	December 7th, 1882.
Alfred Graveley Howard	" "
James Lewis Howe	" "
50 years of Fellowship.	
Samuel Robert Adcock	December 15th, 1892.
William Smellie Anderson	" "
David Avery	" "
Arthur John Bensusan	" "
Arthur James Cooper	" "
Sir Martin Onslow Forster	" "
William French	" "

ACKNOWLEDGMENTS.

The Council have expressed their thanks to the Rev. G. C. Chambres and Dr. F. A. Freeth for contributions to the Publications Fund, and to Dr. F. W. Gray and Mr. H. H. Hughes for presenting publications of the Society.

RESEARCH GRANT.

The Council have made a grant of £25 to Dr. S. H. Harper for a research on the "Synthesis of the Constituents of Pyrethrum."

PUBLICATIONS OF THE AMERICAN CHEMICAL SOCIETY.

	Price to Public.	Postage.
(1) *Journal of the American Chemical Society*	$8.50	$1.50
(2) *Chemical Abstracts*	$12.00	$2.40
(3) *Industrial and Engineering Chemistry:*		
(*a*) Industrial Edition (monthly) and Analytical Edition (monthly), sold only as a unit	$4.00	$2.25
(*b*) Chemical and Engineering News (semi-monthly)	$2.00	$0.60
(*a*) and (*b*) together	$6.00	$2.85

A discount of 10 per cent. is allowed on (1) and (2) when sent to same address and ordered at the same time. No discount on (3).

A special discount of 10 per cent. off all the above prices (exclusive of postage) is allowed to Fellows of the Chemical Society who are not Members of the American Chemical Society.

Fellows residing in Canada pay one-third postage rates and for those residing in countries in the Pan-American Union and Spain there is no charge for postage.

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LIBRARY.

Registration of books sent through the post.

Owing to losses of books in the post, it is now a condition of loan that all books sent through the post must be *registered.*

FELLOWSHIP.

The following 22 candidates were elected Fellows on December 17th:

William Nelson Anderson.
William George Atkins.
Frank William Bailey.
Oscar Theodore Baldwin.
Stella Constantine.
Robert Turner Eaton.
William Eric Gaunt.
Lionel Alfred Gilbert.
Robert John Harris.
Robert John Cecil Harris.
Frank Wynn Hayes.
Edward Henry Treffry Hoblyn.
Derek Holmes.
Arthur Montague James.
Arnold Ivor McMullen.
Sidney Launcelot Hiam Martin.
David Mess.
Rex Montgomery.
Ralph Francis Naylor.
Frederick Howard Newth.
John O'Mara-Bockris.
Joseph William Geoffrey Porter.
Francis Leslie Rose.
William Henry Seath.
Bernard Selton.
Alfred John Shorter.
Louis Lionel Shreir.
James Frederick Sumner.
James Watson.
William Whigham.
Robert Hugh Boyle Workman.
William Leas Wren.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, January 18th, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Ashworth, Michael Carr,** 1st Class in Preliminary to Part I Nat. Sci. Tripos; Exhibitioner of Trinity College, Cambridge. British. Peak Lodge, Chapel-en-le-Frith. Undergraduate. *Signed by :* C. H. Bamford, F. G. Holliman, F. G. Mann.

Audsley, Arnold, B.Sc.Hons. and Ph.D. (Leeds), A.I.C. British. Netherby, Westfield, Wyke, Bradford. Experimental Officer. *Signed by :* J. W. Baker, W. A. Wightman, H. Burton, F. R. Goss.

Barker, Peter Frederick, 4 years analytical experience. British. c/o 1, Great Northern Road, Dunstable. Analyst to a Rubber Manufacturing Firm. *Signed by :* D. P. Young, J. Kenyon, J. W. Smith.

***Brookfield, Kenneth Johnson,** Inter.B.Sc. (Lond.). British. The Hollies, Green End Lane, St. Helens. Experimental Assistant. *Signed by :* G. H. Whiting, E. Booth, W. E. Jones.

Brown, Fred, 1st Class in Part II, prelim. Senior Scholar of Trinity College. English. Trinity College, Cambridge. Research Student. *Signed by :* F. G. Mann, H. McCombie, F. G. Holliman.

Buckley, Eric Sydney, 22 years experience in general analytical work. British. 31, Ladbrooke Drive, Potters Bar. Chemist and Technical Assistant to Messrs. Wright & Weaire, Ltd. *Signed by :* Harold Heron, John L. Horton, R. M. Savage.

***Campbell, Alastair.** British. 14, Newbrough Crescent, Jesmond, Newcastle-on-Tyne, 2. Final Honours Student in Chemistry, Durham University. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

Carr, Albert Robert, B.Sc.Hons. (Lond.), A.I.C. British. Rossend Castle, Burntisland. Technical Assistant. *Signed by :* Robert G. M. Dakers, James Sandilands, Hugh B. Nisbet.

***Challis, Anthony Arthur Leonard.** British. 17, The Riding, Gosforth, Newcastle-on-Tyne, 3. 3rd year Honours Student in Chemistry at King's College, Durham University. *Signed by :* Richard Raper, G. R. Clemo, Wesley Cocker.

***Charlton, Francis Richard,** 2nd year Honours Chemistry Student. British. 50, Eldon Place, Newcastle-on-Tyne, 2. Student, Durham University. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

Cook, Bernard Michael, 1st Class Honours Parts I and II of the Nat. Sci. Tripos, Cambridge. British. The Priory, Beech Hill, Nr. Reading. Consultant Chemist. *Signed by :* F. G. Mann, H. McCombie, F. Wild.

***Crisp, Edmund Theodore,** B.A. (Cantab.), Nat. Sci. Tripos Part I. British. R.A.O.C., Malta. On military service. *Signed by :* F. S. Dainton, W. G. Palmer, D. Faulkner.

***Czeczowiczka, Nina Magdalena.** Polish. 58, Northways, College Crescent, N.W. 3. Student. *Signed by :* J. R. Partington, W. H. Patterson, F. S. Dainton.

***Driver, George William,** B.Sc. (Dun.). British. Leahurst, Low Westwood, Hamsterley Colliery, Newcastle-on-Tyne. Research Student. *Signed by :* G. R. Clemo, Richard Raper, George A. Swan.

Emley, Edward Frederick, B.Sc.Hons. (Lond.), A.I.C. British. 12, Allenby Road, Swinton, Manchester. Metallurgical Research Chemist. *Signed by :* C. J. Bushrod, Ivan Harris, C. H. Wood, G. H. J. Neville.

***Fairlam, Cyril John.** British. 59, Linden Road, Gosforth, Newcastle-on-Tyne, 3. 3rd year Honours Student in Chemistry at King's College, Durham University. *Signed by :* Wesley Cocker, G. R. Clemo, Richard Raper.

***Felton, Desmond Geoffrey Ivins,** Higher School Cert. British. 5, Alexandra Road, Victoria Park, Dorchester. Undergraduate reading for Honours in Natural Science, Chemistry, at Balliol College, Oxford. *Signed by :* A. G. Ogston, F. E. King, Ronald P. Bell.

Glass, Stuart Craigie, A.H.W.C., A.I.C. British. 1, Pennywell Villas, Davidson's Mains, Edinburgh, 4. Chemist to a Corporation Gas Dept. *Signed by :* James Sandilands, Hugh B. Nisbet, Robert G. M. Dakers.

Greenaway, Frank, B.A.Hons. (Oxon). British. 55, Seaforth Gardens, Ewell. Chemistry Master at Epsom County School for Boys. *Signed by :* D. L. Chapman, C. Hurst, J. C. Smith, W. Baker.

***Gugenheim, Peter Gerhard Arthur Fritz,** Nat. Sci. Tripos Part I. German Refugee. St. John's College, Cambridge. Student, reading for Nat. Sci. Tripos Part II in Chemistry. *Signed by :* F. G. Mann, H. McCombie, F. G. Holliman.

Gysin, Charles François. Swiss. Plas Gwyn, Prestbury Road, Wimslow. Managing Director of Geigy Colour Co., Ltd. *Signed by :* I. E. Balaban, W. Osborn, H. Stromberg.

Hall, David Alan, B.Sc. (Leeds). British. 128, New Adel Lane, Leeds, 6. Textile Research Chemist. *Signed by :* Frederick Challenger, J. B. Speakman, W. A. Wightman.

***Hantman, Lionel Louis.** British. 224, Westmorland Road, Newcastle-on-Tyne, 4. 3rd year Honours Chemistry Student, Durham University. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

***Harrison, Arthur John,** Part II, Nat. Sci. Tripos. British. 90, Freiston Road, Boston. Research Student, Cambridge University. *Signed by :* F. S. Dainton, H. McCombie, B. C. Saunders, F. Wild.

Hathway, David Ernest, B.Sc.Hons. (Lond.), A.I.C. British. 14, Mossey Road, Gloucester. Postgraduate Research Scholar (in the Dept. of Chemistry) under the direction of Dr. H. H. Hodgson. Engaged on work for Ph.D. thesis at Huddersfield Technical College. *Signed by :* H. H. Hodgson, H. S. Turner, J. F. Dunworth.

Hopkins, John Edward, 22 years in Industrial Chemistry. English. 33, Greystone Road, Liverpool, 10. Works Process Chemist. *Signed by :* Hubert M. Thompson, Eli Finklestone, A. E. Findley.

***Hutton, Herbert Lewis.** British. 11, Wansbeck Avenue, Cullercoats. 2nd year Honours Chemistry Student, Durham University. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

***Jacques, John Edward,** Inter.B.Sc. (Lond.). British. Denfurling Cottage, Frampton-on-Severn, Gloucester. Undergraduate at University College of the South West of England, Exeter. *Signed by :* H. T. S. Britton, P. T. Gilbert, W. H. Lewis, R. King, S. J. Gregg.

James, Sybil Pauline, B.Sc. and Ph.D. (Birm.). British. Old Rectory Lane, Alvechurch, Birmingham. Research Chemist. *Signed by :* M. Stacey, F. Smith, Stanley Peat.

***Kemball, Charles,** 1st Class Honours in Part I Nat. Sci. Tripos. British. 6, South Inverleith Avenue, Edinburgh, 4. Undergraduate reading for Part II Nat. Sci. Tripos, Cambridge. *Signed by :* F. G. Mann, N. B. Chapman, B. A. Kilby.

Latham, Charles, M.P.S. British. 76, Chester Drive, N. Harrow. Member of the staff of the Medical Information Department of Boots Pure Drug Co., Ltd. *Signed by :* W. Frank Short, G. P. Forrester, H. Humphreys Jones.

***Legg, Norman.** British. 116, Albert Road, Jarrow. 3rd year Honours Student in Chemistry at King's College, Newcastle-on-Tyne. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

Lindop, Norman, B.Sc.Hons. (Lond.). British. 37, Westbury Road, Ipswich. Research Assistant. *Signed by :* R. S. Colborne, G. Swann, V. A. Petrow.

***Overend, William George.** British. 5, Glenburn Gardens, Monkmoor Road, Shrewsbury. Student at Birmingham University in Honours School of Chemistry. *Signed by :* Stanley Peat, M. Stacey, F. Smith.

***Owen, Douglas Hiley.** British. 5, Wolsingham Road, Gosforth, Newcastle-on-Tyne, 3. 2nd year Honours Student, Durham University. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

***Patterson, Frederic Ross.** British. 49, Bretton Gardens, Cochrane Park Estate, Newcastle-on-Tyne, 7. Final Honours Student in Chemistry at King's College, Newcastle-on-Tyne. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

Phillip, George Gilmour, A.I.C., A.H.W.C. British. 24, Durham Drive, Portobello. Head Chemist to a Brewery. *Signed by :* James Sandilands, Hugh B. Nisbet, Robert G. M. Dakers.

Redmill, Julian Deveron, Diploma of Dyeing Technology. British. 9, Glebe Street, Meadows, Nottingham. Army. *Signed by :* John C. Roberts, D. O. Jordan, E. B. R. Prideaux.

***Saper, Joshua.** British. 103, Hurst Street, Cowley Road, Oxford. Student at Queen Mary College, London University. *Signed by :* J. R. Partington, D. C. Jones, H. D. K. Drew.

Slansky, Paul, Dipl. Ing. and Dr.Ing. (Karlsruhe). Stateless Russian. Tslay House, Bardon Hill, Hexham. Research Chemist in the Paint Industry. *Signed by :* Wesley Cocker, Richard Raper, I. Greenfield.

***Smith, Ronald Henry,** B.Sc.Hons. (Lond.). British. 135, Aylward Road, Merton Park, S.W. 20. Chemist to The British Coal Utilisation Research Association. *Signed by :* M. Vahrman, J. G. Bennett, M. P. Balfe.

Thompson, James Carruthers, B.Sc. (L'pool), Ph.D. (Edin.). British. Cowley, Oxford. Biochemist in Food Research Department. *Signed by :* C. P. Stewart, A. R. Todd, T. S. Work.

***Turnbull, James Hedley.** British. 90, Sackville Road, Newcastle-on-Tyne, 6. Student, 3rd year Honours at King's College, Durham University. *Signed by :* Richard Raper, G. R. Clemo, Wesley Cocker.

Unstead-Joss, Leslie Gordon Lovett, B.Sc. (Lond.), A.I.C. British. 63, Elsham Road, W. 14. Analytical Chemist. *Signed by :* Leslie H. Lampitt, E. B. Hughes, R. Leslie Collett.

***Veitch, Robert Ramsay.** British. North Lodge, Grove Avenue, Gosforth, Newcastle-on-Tyne, 3. 2nd year Honours Chemistry Student, Durham University. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

***Watkins, Ronald Charles,** Student of the University of London in the Faculty of Science. British. 56, Park View Road, New Eltham, S.E. 9. Laboratory Assistant. *Signed by :* John L. Horton, E. de Barry Barnett, Harold Heron.

***Watson, Hubert Richard.** British. 9, Clarendon Place, Leeds, 2. Honours Student in Chemistry. *Signed by :* J. W. Baker, E. Rothstein, Frederick Challenger.

***Weedon, Basil Charles Leicester,** A.R.C.S. British. 114, Wimbledon Park Road, S.W. 18. Research Student, Royal College of Science. *Signed by :* E. R. H. Jones, G. A. R. Kon, A. H. Cook.

West, Leslie Victor, Inter.B.Sc. (Lond.), Board of Education Teacher's Certificate. British. 17, Singlewell Road, Gravesend. Assistant Teacher (Chemistry and Physics), Technical Institute, Gravesend. *Signed by :* F. J. Llewellyn, D. J. G. Ives, W. Solomon.

***Wilson, Robert,** Higher School Cert. British. Dunstanburgh, The Grove, Rowlands Gill, Co. Durham. 2nd year Honours Chemistry Student, King's College, Newcastle-on-Tyne. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Brierley, Frank, F.I.C., A.M.I.E.E., A.I.R.I. British. Golmuri P.O., Tatanagar, B.N.R. Assistant Works Manager, Indian Cable Co., Ltd. *Signed by :* H. Lambourne.

Hoff, Ronald William, A.R.C.S., A.I.C. British. 178, Queen Street, Ottawa, Ontario. Assistant Chief, Customs-Excise Laboratory, Department of National Revenue. *Signed by :* Alfred Tingle.

Murray, Robert Lindley, Chemical Engineers degree, Leland Stanford University. American. Niagara Falls, N.Y. Vice-President in Charge of Development, Hooker Electrochemical Co. *Signed by :* Leslie H. Lampitt.

* Reduced Annual Subscription.

PAPERS RECEIVED.

List of papers received between November 19th and December 17th, 1942. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"5-Acetamidosaccharin, a derivative of sulphanilamide." By O. G. Backeberg and J. L. C. Marais.

"The course of autoxidation reactions in polyisoprenes and allied compounds. Part IV. The isolation and constitution of photochemically formed methyl oleate peroxide." By E. H. Farmer and D. A. Sutton.

"The course of autoxidation reactions in polyisoprenes and allied compounds. Part V. Observations on fish-oil acids." By E. H. Farmer and D. A. Sutton.

"The course of autoxidation reactions in polyisoprenes and allied compounds. Part VI. The peroxidation of rubber." By E. H. Farmer and A. Sundralingam.

"Rubber, polyisoprenes and allied compounds. Part III. Heat-treatment and isomerisation to conjugated forms." By E. H. FARMER and D. A. SUTTON.

"Studies in electrolytic oxidation. Part XIII. The electrolytic oxidation of formaldehyde." By A. HICKLING and F. RODWELL.

"The reaction between methyl 2 : 4 : 6-trihydroxybenzoate and methylmagnesium iodide." By N. A. C. PRYCE.

"The influence of potassium on sugar metabolism." By S. N. FARMER and D. A. JONES.

"The reactions of cuprous oxide on diazotised amines. Part II. Reactions in solutions of various alcohols and organic solvents. Preparation of 1 : 6-dinitronaphthalene." By H. H. HODGSON and H. S. TURNER.

"Dissociation pressures of compounds of ammonia and deuteroammonia with some metallic salts." By A. B. HART and J. R. PARTINGTON.

"Gallium. Part VI. The separation of gallium and germanium from alkaline extracts of germanite by electrolysis." By D. J. LLOYD and W. PUGH.

"Gallium. Part VII. Gallium perchlorate hydrates and urea complex." By D. J. LLOYD and W. PUGH.

"Mechanism of the thermal decomposition of diacyl peroxides in solution in organic solvents." By A. E. OXFORD.

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January, 1943

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, February 18th, 1943, at 2.30 p.m.

Tilden Lecture on " Aspects of Nucleotide Chemistry," by Professor J. M. Gulland, M.A., D.Sc.

Thursday, March 25th, 1943.

Annual General Meeting and the Presidential Address. (Further particulars will be announced.)

MEETINGS OUTSIDE LONDON.

EDINBURGH.

Thursday, February 18th, 1943, at 7.30 p.m.

Lecture on " The Chemistry of Hashish," by Professor A. R. Todd, F.R.S. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held at the North British Station Hotel.

GLASGOW.

Friday, February 19th, 1943, at 7.30 p.m.

Lecture on " The Chemistry of Hashish," by Professor A. R. Todd, F.R.S. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry. To be held in the Royal Technical College.

LEEDS.

Tuesday, March 9th, 1943, at 5.15 p.m.

5.15 p.m. Exhibition of scientific films and apparatus.
6.0 p.m. Light refreshments.
6.30 p.m. Lecture on " The Synthesis of High Polymers," by Professor H. W. Melville, F.R.S.

Joint Meeting with the University of Leeds Chemical Society. To be held in the Chemistry Lecture Theatre of the University, Woodhouse Lane.

NORTH WALES.

Friday, February 26th, 1943, at 5.30 p.m.

Lecture on " Some Aspects of the Chemical Constitution of Milk Fats," by Professor T. P. Hilditch, F.R.S. To be held in the Lecture Theatre of the Chemistry Department, University College of North Wales, Bangor.

SHEFFIELD.

Friday, February 26th, 1943, at 5.30 p.m.

Tilden Lecture on " Aspects of Nucleotide Chemistry," by Professor J. M. Gulland, M.A., D.Sc. Joint Meeting with the University Chemical Society. To be held in the Chemical Lecture Theatre of the University.

SOUTH WALES.

Saturday, February 13th, 1943, at 3 p.m.

Lecture on " The Reducibility of Oxides and Sulphides in the Extraction of Metals," by Dr. H. J. T. Ellingham. Joint Meeting with the University College of Swansea Chemical Society.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, W. 1, on Thursday, January 21st, 1943, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: John C. McGowan, Sidney S. Berg, J. O'Mara-Bockris, J. D. Hamer, I. Dostrovsky, W. M. Wolf, A. G. Catchpole, O. T. Baldwin, L. L. Katan, and J. Rabinovitch.

SCIENTIFIC COMMUNICATIONS.

The following papers were read:

"Substitution Reactions of *neo*Pentyl Halides," by I. DOSTROVSKY and E. D. HUGHES.

"The Mechanism of the Thermal Decomposition of Diacyl Peroxides in Solution in Organic Solvents," by A. E. OXFORD.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Sir Bryce Chudleigh Burt	1905	January 2nd, 1943.
William French	1893	December 7th, 1942.
Charles John Dickenson Gair	1913	June 19th, 1941.
Frank William Harbord	1897	December 27th, 1942.

FEARED KILLED IN ACTION.

The Council regret to report that Pilot Sergeant Alan Nightingale, R.A.F., failed to return from air operations over Bremen on June 28th, 1942. He was appointed a junior member of the Society's staff in October, 1938.

CONGRATULATIONS.

The Council have sent their congratulations to Sir Alfred C. G. Egerton and Sir Jnanendra Chandra Ghosh on their receiving the honour of Knighthood.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. Thomas R. Cowie for a contribution of £60 to mark the completion of his 60 years of Fellowship; also to Mr. F. C. Smith for a contribution to the Publications Fund and to Dr. M. M. T. Plant and Mr. W. B. Saville for presenting publications of the Society.

REPORT OF COUNCIL AND STATEMENTS OF ACCOUNTS FOR 1942.

As the Report of Council and Statements of Accounts appear in full in the *Journal* for April each year, the Council have decided, owing to the necessity for conserving paper, not to circulate the Report of Council and Statements of Accounts for 1942 to Fellows. Copies, however, will be available at the Annual General Meeting, and to any Fellow who makes application to the General Secretary after March 12th.

PUBLICATIONS FOR JANUARY.

In order to save delay, Fellows will receive the same publications in January as they had in December. Adjustments consequent upon any instructions received from Fellows for 1943 will be made when issuing the publications for February.

VACANCIES ON COUNCIL.

The names of the members of Council who retire at the next Annual General Meeting are as follows:

Vice-Presidents who have not filled the office of President:

Professor C. N. HINSHELWOOD and Professor J. L. SIMONSEN.

Elected Ordinary Members of Council:

Constituency I (South-East England), Dr. F. G. MANN, Dr. S. G. P. PLANT, and Dr. G. S. WHITBY.

Constituency III (North-West England, North Wales, and the Isle of Man), Professor T. P. HILDITCH.

Constituency V (Scotland), Dr. J. D. M. ROSS.

The above are ineligible for election to the same office until after the lapse of one year, except Dr. J. D. M. Ross, who was appointed in June to fill, until the next Annual General Meeting, the vacancy caused by the retirement of Professor G. F. Marrian owing to change of residence. Dr. H. J. T. Ellingham, who was co-opted as an additional Ordinary Member of Council in April 1942, also retires, and is eligible for election as an Ordinary Member of Council.

NOTICE is hereby given that in accordance with the Bye-Laws the following vacant places in the Council fall due to be filled at the Annual General Meeting to be held in London on Thursday, 25th March, **1943**:

Vice-Presidents who have not filled the office of President	*Two vacancies.*
Elected Ordinary Members of Council:	
Constituency I (South-East England)	*Three vacancies.*
„ **III** (North-West England, North Wales, and the Isle of Man)	*One vacancy.*
„ **V** (Scotland)	*One vacancy.*

Nominations by Fellows for the office of Vice-President may be made in writing **signed by at least twenty Fellows.**

Fellows resident in a constituency may nominate any Fellow resident in that constituency for election to the Council to fill a vacancy among Elected Ordinary Members of Council allotted to that Constituency. Every such nomination must be in writing **signed by at least fifteen Fellows resident in that constituency.**

Every nomination must relate to one vacant place only, and must be accompanied by a signed declaration by the nominee that he is willing to accept office, if elected.

All nominations must be received by the Honorary Secretaries at the Society's Rooms **not later than first post on Monday, the 15th February, 1943.**

Forms of nomination can be obtained on application to the General Secretary. Applicants should state whether the form required is for a Vice-President or for an Elected Ordinary Member of Council.

FELLOWSHIP.

The following 53 candidates were elected Fellows of the Society on the 21st January, 1943:

Michael Carr Ashworth.
Arnold Audsley.
Peter Frederick Barker.
Frank Brierley.
Kenneth Johnson Brookfield.
Fred Brown.
Eric Sydney Buckley.
Alastair Campbell.
Albert Robert Carr.
Anthony Arthur Leonard Challis.
Francis Richard Charlton.
Bernard Michael Cook.
Edmund Theodore Crisp.
Nina Magdalena Czeczowiczka.
George William Driver.
Edward Frederick Emley.
Cyril John Fairlam.
Desmond Geoffrey Ivins Felton.
Stuart Craigie Glass.
Frank Greenaway.
Peter Gerhard Arthur Fritz Gugenheim.
Charles Francois Gysin.
David Alan Hall.
Lionel Louis Hantman.
Arthur John Harrison.
David Ernest Hathway.
Ronald William Hoff.
John Edward Hopkins.
Herbert Lewis Hutton.
John Edward Jacques.
Sybil Pauline James.
Charles Kemball.
Charles Latham.
Norman Legg.
Norman Lindop.
Robert Lindley Murray.
William George Overend.
Douglas Hiley Owen.
Frederic Ross Patterson.
George Gilmour Phillip.
Julian Deveron Redmill.
Joshua Saper.
Paul Slansky.
Ronald Henry Smith.
James Carruthers Thompson.
James Hedley Turnbull.
Leslie Gordon Lovett Unstead-Joss.
Robert Ramsay Veitch.
Ronald Charles Watkins.
Hubert Richard Watson.
Basil Charles Leicester Weedon.
Leslie Victor West.
Robert Wilson.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, 1st March, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Acland, Lauchlin Henry Dyke, B.A.Hons. (Oxon.), A.I.C. British. Fullers' Earth Union, Copyhold Works, Redhill. Technical and general personal assistant to Managing Director. *Signed by :* R. E. Slade, R. M. Winter, A. Proven.

Angell, Frederick George, B.Sc. and Ph.D. (Birm.), F.I.C. British. 37, Crayke Road, Stockton-on-Tees. Analytical Chemist. *Signed by :* H. N. Wilson, M. P. Applebey, A. J. Prince.

Antrobus, Lionel Philip. British. Levenot, Charcoal Road, Bowdon. Principal and Manager of Messrs. James Briggs & Sons, manufacturers of heavy chemicals. *Signed by :* G. Baddeley, R. F. Garwood, Thornton Scott.

Archer, Henry Robertson. Graduate Member of the Institution of Chemical Engineers, Member of the British Association of Chemists. British. Gt. Burgh, Epsom. Industrial Research Chemist. *Signed by :* C. B. Maddocks, H. M. Stanley, J. G. Maltby.

***Barker, Leslie,** Northern Universities' Matriculation and Higher School Certificates. British. 70, Victoria Road, Morley, Leeds. 3rd year Student in Honours Chemistry at Leeds University. *Signed by :* J. W. Baker, W. A. Wightman, Alan Pollard.

***Brown, Desmond Joseph,** B.Sc.Hons. (Sydney). Australian. 7, Agnes Street, Strathfield, N.S.W. Commonwealth Research Scholar. *Signed by :* J. C. Earl, C. E. Fawsitt, Thomas Iredale.

Brown, Frederick Stanley, B.Sc. and Ph.D. (Wales), A.I.C. British. 26, Marriott Road, Coventry. Research Chemist (Plastics). *Signed by :* H. Paul, W. H. Glover, Ernest N. Johnson.

***Brown, John Trevor Garnet,** B.Sc.Hons. (Wales). British. 60, Holyhead Road, Bangor. Research Student at University College of North Wales, Bangor. *Signed by :* J. L. Simonsen, O. L. Brady, W. Rogie Angus, G. R. Ramage.

Burnham, William Ritchie, M.Sc. and Ph.D. (Dun.). British. 77, Horn Lane, Woodford Green. Lecturer in Chemistry, West Ham Municipal College, Stratford, E. 15. *Signed by :* R. F. Bromley, F. L. Allen, E. A. Rudge.

Burns, David, B.Sc.Hons. (Lond.). British. 26, Quantock Gardens, N.W. 2. Works Manager, Chemical Engineering Works. *Signed by :* B. Ellis, T. McLachlan, A. Krajkeman.

Clarke, Eustace George Coverley, B.A. (Oxon.), Scholar of Lincoln College, Oxford, 1923—6. British. Jersey Farm, Kingwood Common, Henley-on-Thames. Head of Chemistry Division, Royal Veterinary College. *Signed by :* H. Bassett, D. Roy Maxted, Thomas H. Goodwin.

Clent, John Howard, M.P.S. (Lond.). English. Threeways, Trees Road, Mount Merrion, County Dublin. Works Chemist. *Signed by :* H. Humphreys Jones, Kenneth C. Bailey, Thos. J. Nolan.

Collins, John Henry, B.Sc.Hons. (L'pool), A.I.C. British. Telnes, Burma Road, Forest Green, Nailsworth. Chief Chemist, Erinoid Ltd. *Signed by :* Robert Dodd, E. M. Williams, A. McGookin.

***Crick, Robert George Denton,** B.Sc. (Lond.). British. 44, Toynbee Road, W. Wimbledon, S.W. 20. Research Work in Industry. *Signed by :* E. D. Hughes, C. K. Ingold, Henry Terrey.

Crossley, Harold, A.I.C., A.M.C.T. British. 16, Broad Green Road, Liverpool, 14. Industrial Chemist. *Signed by :* E. J. Bond, J. V. Loach, R. A. Morton, R. T. Williams.

Dawe, Geoffrey Arthur, B.Sc. (Lond.). British. 30, Emerson Court, Hill Road, Wimbledon, S.W. 19. Chemist to Messrs. Samuel Jones & Co. *Signed by :* William N. Bacon, R. Hume Purdie, James M. Faulds.

Dewdney, Frank George. English. 181, Charlton Road, Kenton. Works Chemist. *Signed by :* E. T. Neathercoat, J. D. Cohen, S. G. Stevenson.

Dodgson, Thomas, B.Sc.(Hons.) (L'pool), A.I.C. British. 94, Melton Road, West Bridgford, Nottingham. Works Chemist. *Signed by :* W. C. M. Lewis, T. P. Hilditch, R. A. Morton.

***Elias, Peter Stefan.** Student, London University, 1st final year. German. 1, Galata Road, Barnes, S.W. 13. Laboratory Assistant. *Signed by :* Hubert H. Chambers, E. F. Mactaggart, L. M. Mundy.

***Elks, Joseph,** B.Sc. and Ph.D. (Lond.), D.I.C., A.R.C.S., A.I.C. British. Chemical Research Department, Glaxo Laboratories, Ltd., Greenford. Research Chemist. *Signed by :* F. A. Robinson, B. Arthur Hems, D. F. Elliott.

Forber, Edward Stanley. 5 years course at St. Helens Technical College and 23 years experience in Industry as Chemist, Control Chemist and Manager. British. 291, Blackburn Road, Oswaldtwistle. Assistant Works Manager and Chief Control Chemist with Fine Chemical Manufacturer. *Signed by :* Wesley Cocker, D. G. Turner, Cyril Lipman.

Foster, Clifford Kitchener, B.Sc.Hons. and Ph.D. (Lond.), A.R.C.S., A.I.C. 4 years post-graduate research experience. British. 1, Heath Grove, Alexandra Road, Pudsey, Leeds. Research and Plant Control Chemist. *Signed by :* Herbert Henry Hodgson, B. D. W. Luff, E. T. Williams.

***Fox, Solly,** B.Pharm. (Lond.). British. 191, High Road, Ilford. R.A.M.C. Attached to Laboratory, Military Hospital (Head Injuries). *Signed by :* Julius N. Ashley, S. S. Berg, H. J. Barber.

Gee, Geoffrey, M.Sc. (Manc.), Ph.D. (Cantab.), A.I.C. British. 48, Tewin Road, Welwyn Garden City. Senior Physical Chemist. *Signed by :* E. H. Farmer, J. I. Cunneen, G. F. Bloomfield.

Geller, Norbert, Ph.D. (Vienna). Austrian. 14, Kellett Lane, Lower Wortley, Leeds, 12. Works Chemist. *Signed by :* J. W. Baker, M. Polanyi, Thomas Mann.

Goll, John Raymond, A.I.C. British. Kenmure, Murray Street, Renfrew. Shift Chemist in Government Department. *Signed by :* Eric J. Holland, A. E. Findley, R. R. Butler.

***Goodman, Isaac,** InterB.Sc. (Lond.), Diploma and Associateship, Royal Technical College, Salford. British. 46, Ravald Street, Salford, 3. Student of Chemistry at Royal Technical College, Salford. *Signed by :* John Graymore, Ernest Tidd, J. R. Walmsley.

Gow, Robert John. Higher National Certificate in Chemistry. British. Brook Cottage, Chapel Lane, Rainhill. Laboratory Assistant, Imperial Chemical Industries, Ltd. *Signed by :* J. F. Sumner, J. F. Jackson, F. E. Rymill.

Gratton, Gerald, M.Sc. (Wales), A.I.C. British. Flatts of Cargen, New Abbey Road, Dumfries. Analytical Chemist to I.C.I., Ltd. *Signed by :* V. C. E. Burnop, E. W. Lambert, J. L. Simonsen, G. R. Ramage.

***Greene-Kelly, Ronald Gordon Hanns.** Intermediate Science. British. 32, New House Park, St. Albans. Undergraduate at Queen Mary College (London University). *Signed by :* J. R. Partington, H. D. K. Drew, W. H. Patterson.

***Harrison, Fred Lloyd,** B.Sc.Hons. (Sydney). Australian. P.O. Box 13. Hay, N.S.W. Demonstrator in Organic Chemistry. *Signed by :* J. C. Earl, C. E. Fawsitt, Thomas Iredale.

Hart, Stephen John, B.Sc.Hons. (Lond.), A.I.C. British. 29, Edna Street, Battersea, S.W. 11. Technical Research Chemist. *Signed by :* J. J. Fox, R. Leslie Collett, B. A. Ellis.

Holton, James, M.A. and Ph.D. (Cantab.). English. 17, Bakers Lane, Streetly, Sutton Coldfield. Development Manager to British Industrial Plastics, Ltd. *Signed by :* William Blakey, R. G. W. Norrish, Eric K. Rideal.

***Hogben, Iris Ada,** B.Sc. (Lond.). British. 13, Bank Road, Crumpsall, Manchester, 8. Research Chemist. *Signed by :* W. A. Sexton, W. H. Davies, A. W. Baldwin.

Hopkins, Donald Percy, B.Sc.Hons. (Lond.), A.I.C. British. Tennyson House, West End, Clevedon. Works Chemist and Production Manager to Fertiliser Manufacturers. *Signed by :* A. L. Bacharach, R. Leslie Collett, F. P. Dunn.

Hughes, Ellis, B.Sc. (Wales), A.I.C. British. 17, Danesway, Prestwich, Manchester. Technical Chemist. *Signed by :* R. Fraser Thomson, E. H. Rodd, S. Ellingworth.

Hurt, Norman Albert, A.M.C.T., F.I.C. British. 7, Cliff Avenue, Loughborough. Analytical Chemist. *Signed by :* Harold Webber, G. M. Dyson, W. S. Stevens.

***Kahn, Hans Jacob,** B.Sc. (Lond.). Formerly German. 48, Randolph Avenue, W. 9. Works Chemist. *Signed by :* J. R. Partington, W. H. Patterson, D. Mess.

Kerlogue, Robert Henry, B.Sc. and Ph.D. (Lond.), A.I.C. British. Cestria, Fatfield, Washington. Research Divisional Manager. *Signed by :* D. J. G. Ives, H. L. Riley, J. S. F. Gard.

Lane, Edward Sydney, B.Sc.Hons. (Lond.), A.I.C. British. c/o Elm Villa, Lambs Lane, Spencers Wood, Reading. Chemist. Assistant to Messrs. O. W. Roskill, Consulting Chemist. *Signed by :* K. R. Webb, Ishbel G. M. Campbell, N. K. Adam.

Liddiard, Percival Donald, B.Sc. (Lond.), A.I.C. British. 19, Presburg Road, New Malden. Assistant Director, Technical Research and Chief Chemist. *Signed by :* J. R. Nicholls, H. Baines, R. Leslie Collett.

***Macdonald, Eric,** B.Sc.Hons. (Wales). British. 60, Holyhead Road, Bangor. Research Student at University College of North Wales, Bangor. *Signed by :* J. L. Simonsen, G. R. Ramage, O. L. Brady, W. Rogie Angus.

***McLeavy, Gordon.** British. 36, Stainburn Drive, Harrogate Road, Leeds, 7. Student, Leeds University. *Signed by :* R. Whytlaw-Gray, H. Taylor, Alan Pollard, J. Colvin.

Mandeville, Desmond Christopher, B.A.Hons. (Cantab.), A.I.C., A.M.I.Chem.E. British. Quarry Edge, Cookham Dene. Works Chief Chemist. *Signed by :* J. J. Fox, R. Leslie Collett, B. A. Ellis.

Maplethorpe, Cyril Wheatley, F.I.C., Ph.C., A.M.I.Chem.E. British. Works Manager to Allen & Hanburys, Ltd. *Signed by :* Norman Evers, Wilfred H. Linnell, T. E. Wallis.

***Marrian, Denis Haigh,** B.Sc.Hons. (Manc.). British. 54, Booths Hill Road, Lymm, Warrington. Research Student in Organic Chemistry. *Signed by :* H. T. Openshaw, A. R. Todd, F. S. Spring.

Martin, Thomas Hamilton, M.Sc. (Manitoba), A.I.C. British. c/o Anglo Iranian Oil Co., Ltd., Masjid-i-Sulaiman, Iran. Chemist. *Signed by :* J. J. Fox, Robert H. Pickard, R. Leslie Collett.

Mills, Eric William, B.Sc.Hons. (L'pool), A.I.C. British. 649, Queen's Drive, Stoneycroft, Liverpool, 13. Research Chemist, B.I. Cables, Ltd. *Signed by :* Francis W. Kay, A. McGookin, R. A. Morton.

Mitchell, Sidney Charles, B.Sc. (Lond.), A.I.C. British. 38, Elmwood, Welwyn Garden City. Works Chemist. *Signed by :* F. S. Spring, D. E. Seymour, C. W. Picard.

Mitchell, Stanley Cecil, B.Sc.Hons. (Lond.)., A.I.C. British. Inglebank, Oakleigh Road, Clayton, Bradford. Metallurgical Analyst. *Signed by :* H. I. Stonehill, R. M. Barrer, A. Jaffe.

Morley, Arthur Milnes, M.Sc.Tech. and Ph.D. (Manc.), A.I.C. British. 158, Oldham Road, Miles Platting, Manchester, 10. Works Chemist and Technical Works Manager. *Signed by :* John K. Wood, O. Rhys Howell, Thomas K. Walker.

Nicholson, John, B.Sc. (Lond.), A.I.C. British. White Lodge, Lound, Nr. Retford. Chemist at a Factory. *Signed by :* L. A. Downing, S. Gabriel, H. C. Gull.

Palmer, Henry Norman Brecknock, Member, Institute of Labour Management; Member Works Management Association; 1st Place Practical Chemistry, City of London College, 1921; Member Society of Chemical Industry (over 20 years); Courses in Timber Technology (Liverpool University), Oils, fats, waxes (City of London College). British. 19, Ailesbury Road, Ballsbridge, Dublin. Director in charge of Production and Research. *Signed by :* Thomas J. Nolan, A. G. G. Leonard, T. S. Wheeler.

Pausacker, Kenneth Henry, B.Sc. (Melbourne). Australian. 54, Bendigo Street, Prahran, S. 1, Melbourne. Chemist. *Signed by :* J. S. Anderson, E. J. Hartung, W. Davies.

Ramsden, Cyril Edward, Vice-President, Society of Glass Technology, Member Glass Research Delegacy. Published papers in *Trans. Ceramic Soc.* British. Park Lodge, Stone. Managing Director, C. E. Ramsden & Co., Ltd. *Signed by :* W. E. S. Turner, C. J. Peddle, A. Cousen.

***Reid, Sarah Elizabeth,** M.Sc. (Q.U.B.). British. 1, Carloon Road, Wythnshawe, Manchester. Research Chemist. *Signed by :* E. H. Rodd, F. S. Fowkes, E. G. Parry.

***Richardson, Dora Nellie,** B.Sc. (Lond.). British. 13, Bank Road, Crumpsall, Manchester, 8. Research Chemist to I.C.I. (Dyestuffs), Ltd. *Signed by :* F. H. S. Curd, H. C. Carrington, W. R. Boon.

***Ritson, David Mark.** British. 77, Hillfield Court, Belsize Avenue, N.W. 3. Science Student (Oxford). *Signed by :* A. S. Russell, J. C. Smith, S. G. P. Plant.

Roffey, Frank, B.Sc. (Lond.), Ph.D. (Bristol), F.I.C. British. 56, Dartmouth Court, S.E. 10. Civil Servant. *Signed by :* J. J. Fox, I. M. Heilbron, A. King.

Rumens, Murray James, B.Sc.Hons. (Lond.), A.I.C. British. Tintern, Thistlebarrow Road, Salisbury. Research Chemist. *Signed by :* K. D. Wadsworth, H. N. Rydon, S. A. Mumford.

Sabel, William, B.Sc. (Lond.), A.I.C. British. 117, Willesden Lane, N.W. 6. Research Chemist. *Signed by :* Harry James Baber, Julius N. Ashley, G. Newbery.

Sammons, Herbert George, B.Sc. and Ph.D. (Birm.). British. Ivyhurst, Upper Longdon, Rugeley. Biochemist in Medical School (Pharmacology Dept.), The University, Birmingham. *Signed by :* Stanley Peat, M. Stacey, W. V. Thorpe.

Schwarzwald, Konrad, Ph.D. (Glas.), Examination equivalent to B.Sc., Vienna University, 1938. 17 months industrial experience. Austrian. 5, De Vere Gardens, Ilford. Research Chemist to Paint, Varnish and Lacquer Manufacturers. *Signed by :* Edward M. Melville, Ethel Bidwell, Francis Schollick.

Sinclair, Kathleen Joyce. Knowledge gained through 24 years employment in chemical intelligence work. British. I.C.I. Jealott's Hill Research Station, Bracknell. Agricultural Research Worker. *Signed by :* S. J. Watson, John C. McGowan, J. H. Birkinshaw.

Smith, Joseph, M.A. (Cantab.). British. 493, Stanton Road, Burton-on-Trent. Managing Director, Hallams, Ltd. *Signed by :* A. Slator, H. E. Dryden, E. J. Leeming.

***Souter, Robert,** B.Sc.Hons. (Lond.), A.I.C. British. 17, Lyndhurst Grove, Chaddesden, Derby. Analytical and Research Chemist. *Signed by :* N. Ferry, W. Hunter, S. A. Miller.

Sutcliffe, Frank Kenneth, M.Sc. (Manc.). British. 774, Rochdale Road, Walsden, Todmorden. Pharmaceutical Research Chemist. *Signed by :* I. E. Balaban, W. Osborn, H. Stromberg.

Sutcliffe, Gordon Roy, Inter.B.Sc. (Lond.), A.I.C. British. 7, Ellesmere Road South, Chorlton-cum-Hardy, Manchester, 21. Analytical Chemist. *Signed by :* D. R. A. Davies, J. Todd, L. J. Ward.

***Unsworth, Alfred Kenneth,** B.Sc. (Lond.). British. 211, Hyde Park Road, Leeds, 6. Assistant Chemist in the Chemical Inspection Department, Ministry of Supply. *Signed by :* J. E. B. Randles, A. S. Nickelson, F. S. Dainton.

Weightman, Peter William, Inter.B.Sc. (Lond.). British. c/o Mrs. Wade, 1, Whitby Road, Fallowfield, Manchester, 14. Analytical Chemist. *Signed by :* R. Tully Turner, D. R. A. Davies, L. J. Ward.

Whewell, Charles Smalley, B.Sc.Hons. and Ph.D., Diploma in Biology (Leeds). British. Department of Textile Industries, The University, Leeds. Lecturer in Cloth Finishing. *Signed by :* E. Rothstein, G. F. Smith, A. T. Peters.

Whitby, Lawrence, M.Sc. and Ph.D. (Lond.), F.I.C. British. Lingmell, Dorney Reach, Maidenhead. Research Chemist. *Signed by :* W. H. J. Vernon, Guy D. Bengough, L. A. Jordan.

White, Henry Lewis, Member of The British Association of Chemists. British. 81, Bexley Lane, Sidcup. Analytical and Research Chemist. *Signed by :* S. P. Schotz, Charles A. Wrench, George W. Ferguson.

Wilkinson, Peter Geden, B.Sc. (Lond.). British. The Anchor Brewery, Mile End Road, E. 1. Brewer's Chemist. *Signed by :* A. J. Allmand, D. W. G. Style, J. A. Burns.

Wilson, Hector Muir Dawson, A.I.C. British. 32, Bradda Avenue, Brimside, Rutherglen. Chemist, Strathclyde Paint Co., Ltd. *Signed by :* I. Vance Hopper, A. B. Crawford, F. J. Wilson.

Wolfner, Wilhelm, B.Sc. (College for Technical Chemistry, Vienna). Specialist in the Fermentation Industries. Austrian. 48, Valley Road, Ipswich. Production Manager, British Fermentation Products, Ltd. *Signed by :* Arthur R. Lockwood, R. L. Edwards, F. C. Dyche-Teague.

Wood, William Stanley, B.Sc. (Lond.), F.I.C. British. Trevessa, Grasmere Avenue, Harpenden. Research Chemist. Deputy Chief Chemist, Messrs. B. Laporte, Ltd. *Signed by :* V. W. Slater, A. N. C. Bennett, H. P. Buttrick.

Wragg, William Robert, B.Sc. (Lond.). British. 68, Westpole Avenue, Cockfosters, Barnet. Research Chemist. *Signed by :* J. R. Partington, V. A. Petrow, F. Wild.

Wright, Gilbert Bruce. Training in Chemistry at Carlisle Technical College. Thirteen year's experience as Chemist in Industry. British. 34, Craigmount Terrace, Corstorphine, Edinburgh, 12. Assistant to Chief Chemist, Flour & Cereal Dept., Scottish Co-operative Wholesale Society, Ltd. *Signed by :* E. G. V. Percival, Jas. Sword, James Sandilands.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

***De Ment, Jack.** American. 1907, South East 48th Avenue, Portland, Oregon. Research Chemist, The Mineralogist Magazine. *Signed by :* F. E. Twining.

Long, James Scott, Ch.E. and M.S. (Lehigh), Ph.D. (Johns Hopkins). Professor from graduation, 1934; Chemical Consultant from Chemical Director, 1934–date. American. The Weissinger-Gaulbert Apts., Broadway, Louisville, Ky. Chemical Director. Devoe & Raynolds Co., Inc. *Signed by :* Foster Dee Snell.

Rao, Mannigay Umanath, M.Sc. (Allahabad), A.I.C. British. Shanti Nivas, Sardarpura, Jodhpur, Rajputana. Chemist to The Government of Jodhpur. *Signed by :* K. P. Chatterjee.

Rigg, Sir Theodore, K.B.E., M.Sc. (N.Z.), M.A. (Cantab.), F.I.C., F.R.S. (N.Z.). British. Cawthron Institute, Nelson, N.Z. Director, Cawthron Institute. *Signed by :* Henry Oscar Askew, Thomas H. Easterfield.

* Reduced annual subscription.

PAPERS RECEIVED.

List of papers received between December 17th, 1942, and January 22nd, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The preparation and reactions of *N*-nitrosoaceto-1-naphthalide. With a note on the mechanism of the diazo-coupling reaction." By H. H. HODGSON and E. MARSDEN.

"The monoreduction of dinitronaphthalenes in acid solution, and the monoreduction of 1 : 5- and 1 : 6-dinitronaphthalene by aqueous sodium sulphide." By H. H. HODGSON and H. S. TURNER.

"Studies on indene derivatives. Part II. Triketohydrindene." By A. SCHÖNBERG and R. MOUBACHER.

"Qualitative semimicro-analysis, with reference to Noyes and Bray's system. The aluminium group." By (MISS) C. C. MILLER.

"The isomerism of *cyclo*hexane derivatives." By R. F. HUNTER.

"Bromination of diphenylalkanes and the preparation of some stilbene derivatives. Part II. βγ-Diphenyl-*n*-butane." By H. J. BARBER, R. SLACK, and A. M. WOOLMAN.

"Interchange of hydrogen isotopes with complex salts. Part I. Kinetics of the interchange with the luteocobaltic complex." By J. S. ANDERSON, H. V. A. BRISCOE, and N. L. SPOOR.

"Interchange of hydrogen isotopes with complex salts. Part II. Kinetics of the interchange with platinous and palladous tetrammines." By J. S. ANDERSON, H. V. A. BRISCOE, L. W. COBB, and N. L. SPOOR.

"The vapour pressure of metallic indium." By J. S. ANDERSON.

"Physico-chemical aspects of bacterial growth. Part VIII. Growth of *bact. lactis ærogenes* in media containing ammonium sulphate or various amino-acids." By R. M. LODGE and C. N. HINSHELWOOD.

"Physico-chemical aspects of bacterial growth. Part IX. The lag phase of *bact. lactis ærogenes*." By R. M. LODGE and C. N. HINSHELWOOD.

"Physico-chemical aspects of bacterial growth. Part X. Observations on the variability of growth rate of *bact. lactis ærogenes*." By R. M. LODGE and C. N. HINSHELWOOD.

"The effect of heat on mandelic acid." By W. R. ANGUS and R. P. OWEN.

"The stability of racemates. Mandelic acid and some of its derivatives." By W. R. ANGUS and R. P. OWEN.

"Aqueous solubilities of *r*- and *l*-mandelic acids and three hydroxy-*r*-mandelic acids." By W. R. ANGUS and R. P. OWEN.

"Some sulphonyl derivatives of amidines and imino-ethers." By H. J. BARBER.

"The tautomerism of benzoquinone–*p*-nitrosophenol systems. Part II. 3-Fluoro-4-nitrosophenol." By H. H. HODGSON.

"Note. 5-Ethoxy-4-nitrotoluene-2-sulphonic acid." By C. BUCHANAN, J. D. LOUDON, and J. ROBERTSON.

"Acyl migration in steroids." By V. A. PETROW, O. ROSENHEIM, and W. W. STARLING.

"The alkaloids of the seeds of *Delphinium elatum*, L." By J. A. GOODSON.

"The stereochemical relationships of the 9 : 10-oxidostearic acids and the 9 : 10-dihydroxystearic acids." By D. ATHERTON and T. P. HILDITCH.

"The action of alkalis upon substituted benzdioxins. Part II." By H. IRVING and (in part) E. G. CURTIS.

"Polarographic studies. Part II. Mould metabolites and related quinones." By J. E. PAGE and F. A. ROBINSON.

"Rubber, polyisoprenes and allied compounds. Part IV. The relative tendencies towards substitutive and additive reaction during chlorination." By G. F. BLOOMFIELD."

"Molecular volume and structure. Parts V and VI." By T. W. GIBLING.

"Butylnaphthalenes and their derivatives. Part I. β-*tert*.-Butylnaphthalene." By N. G. BROMBY, A. T. PETERS, and F. M. ROWE.

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February, 1943

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, March 25th, 1943.

The Hundred and Second Annual General Meeting of the Chemical Society will be held at Burlington House, on Thursday, March 25th, 1943. At 11.30 a.m., the business portion will be held:

(*a*) To receive the Report of Council, together with Statement of Accounts and Balance Sheets for the year ended December 31st, 1942 (for reasons of economy this will not be circulated, but copies can be obtained from the General Secretary); (*b*) to declare the election of the Elected Ordinary Members of Council for Constituencies III (North-West England, North Wales and the Isle of Man), and V (Scotland); (*c*) to receive the report of the Scrutators on the ballot for Vice-Presidents (who have not filled the office of President) and of Elected Ordinary Members of Council for Constituency I (South-East England), and to declare the name of the Fellows duly elected; (*d*) to appoint Auditors for 1943.

At 12.45 *for* 1 *p.m.* Luncheon will be held at Stewart's Restaurant (corner of Piccadilly and Old Bond Street), and the price of the luncheon will be five shillings and sixpence (5*s.* 6*d.*) (not including gratuities).

At 2.30 *p.m.* The President, Dr. W. H. Mills, M.A., F.R.S., will deliver his Presidential Address, entitled "Stereochemistry of Labile Compounds."

Thursday, April 15th, 1943, at 2.30 p.m.

Ninth Liversidge Lecture on "Magnetochemistry," by Professor S. Sugden, D.Sc., F.R.S.

MEETINGS OUTSIDE LONDON.

DUNDEE.

Thursday, April 15th, 1943, at 4.30 p.m.

Tilden Lecture, on "Recent Developments in the Theory of Reaction Kinetics in Solution," by Mr. R. P. Bell, M.A., B.Sc. To be held in the Chemistry Department of the University College.

LEEDS.

Tuesday, March 9th, 1943, at 5.15 p.m.

5.15 p.m. Exhibition of scientific films and apparatus.
6.0 p.m. Light refreshments.
6.30 p.m. Lecture on "The Synthesis of High Polymers," by Professor H. W. Melville, F.R.S.

Joint Meeting with the University of Leeds Chemical Society. To be held in the Chemistry Lecture Theatre of the University, Woodhouse Lane.

LIVERPOOL.

Friday, March 19th, 1943, at 6 p.m.

Lecture on "Trends of Agriculture in Relation to Nutrition," by Sir John Russell, O.B.E., D.Sc., F.R.S. Joint Meeting with the Liverpool Section and the Food Group of the Society of Chemical Industry. To be held at the Adelphi Hotel.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, W. 1, on Thursday, February 18th, 1943, at 2.30 p.m.

The President, Dr. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society:

Archibald G. Clement, Frank Greenaway, Werner David, J. D. Redmill, Chas. Latham, H. T. Openshaw, S. Wilkinson, and G. V. E. Thompson.

TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Professor J. M. Gulland to deliver his Tilden Lecture, entitled "Aspects of Nucleotide Chemistry."

A vote of thanks to the Lecturer, proposed by Dr. H. B. Watson, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Doris Laura Fairchild	1941	November 6th, 1942
Stephen Archigenes Ionides	1901	January 27th, 1943
Ernest Wilson McClelland	1920	February 4th, 1943
Frank Sturdy Sinnatt	1902	January 27th, 1943
George Alfred Stokes	1911	January 23rd, 1943
Arthur Percy Strohmenger	1909	January 23rd, 1943
Raymond Taylor	1926	January 24th, 1943

CONGRATULATIONS.

The congratulations of the Council have been conveyed to the following Fellows who have completed 60 and 50 years of Fellowship.

60 years of Fellowship.

	Elected.
Alfred H. Jackson	February 1st, 1883
Frederick W. Richardson	" "
Ernest S. Spencer	" "
Thomas Turner	" "

50 years of Fellowship.

	Elected.
John E. Brockbank	February 16th, 1893
Samuel F. Dufton	" "
Wesley J. Lambert	" "
William E. Wheeler	" "

ACKNOWLEDGEMENTS.

The thanks of the Council have been conveyed to Mr. P. Appleyard, Mr. P. K. Dutt, Prof. W. E. Garner, and Mr. G. Watson Young for contributions to the Publications Fund, and to Dr. A. F. Campbell, Mr. M. B. Donald, and Dr. R. Raper for presenting publications of the Society.

NOMINATIONS FOR VACANT PLACES ON THE COUNCIL.

The following is the list of the nominations for the new Council:

Vice-Presidents who have not filled the Office of President. (*Two vacancies.*)

SIR ALFRED EGERTON.
PROF. C. K. INGOLD.

ELECTED ORDINARY MEMBERS OF COUNCIL.

Constituency I. S.E. England. (*Three vacancies.*)

DR. S. H. HARPER. (Southampton.)
DR. J. C. SMITH. (Oxford.)
DR. G. B. B. M. SUTHERLAND. (Cambridge.)
DR. W. H. J. VERNON. (Teddington.)

Constituency III. N.W. England, N. Wales and the Isle of Man. (*One vacancy.*)

DR. R. A. MORTON. (Liverpool.)

Constituency V. Scotland. (*One vacancy.*)

DR. J. D. M. ROSS. (Dundee.)

ELECTION OF SCRUTATORS.

Messrs. E. A. Evans and F. H. Lowe have been appointed Scrutators to examine the voting papers for Vice-Presidents (who have not filled the office of President) and for Elected Ordinary Members of Council for Constituency I.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, April 12th, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Adamson, Donald Malcolm, F.I.C. British. 49, Brownhill Road, Catford, S.E. 6. Chemist. *Signed by:* D. C. Garratt, Norman Evers, R. Leslie Collett.

Adamson, Peter Swainston, M.Sc. (Wales). British. Heath House, Ardleigh, Nr. Colchester. Research Chemist in Plastics Development Department of Messrs. B. X. Plastics, Ltd. *Signed by:* Foster Sproxton, Geoffrey Swann, L. W. Turner.

***Allen, David George,** Inter. and Subsid. B.Sc. (Lond.). British. 43, Coombe Gardens, New Malden. Assistant chemist and part-time student reading for Final B.Sc. special in Chemistry at Birkbeck College, University of London. *Signed by:* A. Prideaux Davson, D. J. G. Ives, George W. Ferguson.

Bailey, Arthur John Marson, B.Sc.Hons. (Lond.), A.I.C., M.P.S. British. 3, East Road, Maidenhead. Food Research Chemist. *Signed by:* H. J. Spriggs, Percy C. C. Isherwood, H. W. Vernon.

Beard, Sydney George, A.I.C. British. 19, Regarth Avenue, Romford. Research Chemist, Messrs. Roneo, Ltd. *Signed by:* G. J. Trower, J. W. B. Price, G. V. E. Thompson.

Bennett, William Herbert, M.Sc. (Lond.), F.I.C. British. 2, Friary Close, Torrington Park, N. 12. Chemist, Imperial Institute. *Signed by:* George W. McCrea, R. J. Cole, H. Wells.

***Bentley, Herbert Ripley,** Scholar of Lincoln College, Oxford. Reading for B.A. (Hons.) in Chemistry. British. 6, Lower Rushton Road, Thornbury, Bradford. Undergraduate. *Signed by:* F. M. Brewer, Ronald P. Bell, N. V. Sidgwick, R. M. Lodge.

Bide, Austin Ernest, B.Sc. (Lond.), A.I.C. British. 10, Connell Crescent, Western Avenue, Ealing, W. 5. Research Chemist. *Signed by:* E. Lester Smith, F. A. Robinson, R. Leslie Collett.

Brotherton, Charles Frederick Ratcliffe. British. The Hall, Kirkham Abbey, York. Chairman of Brotherton & Co., Ltd. *Signed by:* Frederick Challenger, J. W. Baker, Frederick M. Rowe, R. Whytlaw-Gray.

***Bywater, Stanley,** Higher School Certificate. English. Allencroft House, Birkenshaw, Bradford. Student, 3rd year Hons. Chem., University of Leeds. *Signed by:* J. W. Baker, Alan Pollard, H. Taylor.

***Cook, Harold Gilbert,** Pt. II. Nat. Sci. Tripos (Class 2, division 1), Cambridge. Degree not to be awarded until June, 1943. Scholar, King's College, Cambridge. Class I in Prelim. Pt. I of the Nat. Sci. Tripos, June, 1941. British. 129, Hemingford Road, Cambridge. Research Student. *Signed by:* F. S. Dainton, H. McCombie, B. C. Saunders, F. Wild.

Cooper, William, B.Sc. (Lond.), A.I.C. British. Dunrovin, 1, Hove Avenue, Newport. Works Chemist, British Aluminium Co. *Signed by:* James Sandilands, Robert G. M. Dakars, Vivian E. Davis.

Davies, John Douglas, A.I.C., Ph.C., M.P.S. British. 3, Prendergast Hill, Haverfordwest. Research Assistant. *Signed by:* H. B. Watson, D. P. Evans, W. D. Williams.

Davis, Harold, B.Sc. and Ph.D. (Lond.), A.I.C., Ph.C. British. 2, West Drive, Harrow Weald. Chief Pharmacist, University College Hospital and Lecturer in University College Hospital Medical School. *Signed by:* C. R. Harington, Rosalind Pitt-Rivers, A. Neuberger.

***Davis, Margaret Isabel,** B.Sc. (Lond.). British. 275a, Barlow Moor Road, Manchester, 21. Research Chemist. *Signed by:* E. H. Rodd, E. B. R. Prideaux, John C. Roberts, D. O. Jordan.

Duke, John Reginald Claude, B.Sc. (Lond.), A.I.C. English. Beechdale, Copsem Lane, Esher. Captain, K.R.R.C. (at present); otherwise, Chemist. *Signed by :* R. H. Griffith, W. Lewcock, W. J. Gooderham.

Emblem, Harold Garton, B.Sc.Hons. (L'pool), A.I.C. British. Netherley, 263, Marshalls Cross Roads, Sutton, St. Helens. Research Chemist. *Signed by :* William Doran, Francis W. Kay, R. A. Morton.

Fastier, Frederick Noel, M.Sc. (N.Z.). Three years experience in pharmacological research and organic syntheses. British. 25, Erin Street, Roslyn, Dunedin, N.Z. Research Assistant, Department of Medicine, Otago University. *Signed by :* F. G. Soper, M. V. Bryan King, S. N. Slater.

Field, William Thomas, B.Sc. (Lond.), F.I.C. British. 30, Ingleby Way, Wallington. Chief Chemist. *Signed by :* Thos. Macara, L. E. Campbell, C. L. Hinton.

Flavell, William, B.Sc. (Birm.), A.I.C. British. 2, Brook Street, Woodsetton, Dudley. Research Chemist. *Signed by :* W. J. R. Way, N. Ferry, F. Stanbridge.

***Godfrey, Alan Crofton,** B.Sc. (Lond.), A.I.C. British. Welwyn Garden City. Research Chemist. *Signed by :* Paul Russell, Laurence M. Smith, J. M. Walter.

Graham, William, B.Sc.Hons. (Manc.), A.I.C. British. 80, Robin Hood Way, Greenford. Research Chemist. *Signed by :* A. R. Todd, F. A. Robinson, E. Lester Smith.

Hadley, William Henry, M.A. (Cantab.), F.I.C. British. Kinsley, 23, Denbury Avenue, Stockton Heath, Warrington. Chemist—Analytical and Research. *Signed by :* H. W. L. Phillips, T. G. Pearson, J. H. Dickin.

***Hall, Alan Montague,** B.Sc.Hons. (Lond.). British. 64, Beaumont Leys Lane, Leicester. Industrial Chemist. *Signed by :* A. Pilgrim, H. L. Long, E. M. Stoddart.

Hatton, John Percival, M.Sc.Tech. (Manc.), A.I.C. British. 235, Brantingham Road, Chorlton-cum-Hardy, Manchester, 21. Works Chemist. *Signed by :* H. Swann, S. Coffey, H. W. Thompson.

Heafield, Thomas Gilbert, M.Sc. (Lond.), A.I.C. British. Mill House, Packington, Ashby-de-la-Zouch. Chemist at British Celanese. *Signed by :* L. Hunter, C. K. Tinkler, A. Hickling.

Henderson, George Mann, B.Sc.Hons. and Ph.D. (Edin.). Scottish. 6, Marton Avenue, Didsbury, Manchester, 20. Research Chemist. *Signed by :* B. J. Heywood, Jas. Buchanan, R. F. Goldstein.

Hills, Henry William John, B.Sc. and Ph.D. (Lond.), A.I.C. British. 58, Agecroft Road West, Prestwich, Manchester. Industrial Chemist. *Signed by :* William Muir, Norman Strafford, Ernest Chapman.

Hollis, Charles Edward, B.Sc. (Lond.), A.I.C. British. 324, Orphanage Road, Sutton Coldfield, Birmingham. Research Chemist. *Signed by :* J. J. Fox, H. K. Whalley, T. Kennaway.

Holness, Harry, B.Sc. (Leeds), A.I.C. British. 127, Wallwood Road, Leytonstone, E. 11. Senior Lecturer in Chemistry, S.W. Essex Technical College. *Signed by :* J. H. Wilkinson, R. W. Jukes, I. L. Finar.

***Humphries, Derek William,** Inter. B.Sc. (Lond.). British. 49, Brunswick Road, Ealing, W. 5. Skilled Laboratory Assistant, Chemical Inspection Department, Ministry of Supply. *Signed by :* Florence M. Wood, J. R. Partington, H. D. K. Drew.

Jack, Kenneth Henderson, B.Sc.Hons. (Dun.), A.I.C., D.Th.P.T. British. 10, Kensington Gardens, North Shields. Demonstrator in Chemistry, King's College, Newcastle-upon-Tyne. *Signed by :* W. M. Madgin, H. L. Riley, G. R. Clemo.

Jackman, Barbara Anne, B.Sc.Hons. (Lond.), A.I.C. British. 2, Bishops Avenue, Bromley. Assistant Chemist at Messrs. J. Lyons & Co., Ltd. *Signed by :* Leslie H. Lampitt, E. B. Hughes, G. E. Forstner.

***Jacobs, Barbara Rosamund,** B.Sc. (Lond.). British. 46, Leeside Crescent, Golders Green, N.W. 11. Chemist with I.C.I. (Dyestuffs), Ltd. At present working at the Courtauld Institute of Biochemistry. *Signed by :* George Alston Rowe, Philip V. Youle, E. H. Rodd, D. W. Stammers.

Jacobs, Ridley Saul, M.Sc. Tech. (Manc.), 17 years manufacture and research in Diazotype Photopapers. British. 2, Allington Road, N.W. 4. Managing Director of The N.I.G. Manufacturing Co., Ltd. *Signed by :* B. Mouat Jones, Frederick M. Rowe, Frank Lee Pyman.

Jacobs, Stanley, M.Sc. (Lond.), A.I.C. British. 124, Camberley House, Redhill Street, N.W. 1. Research Chemist. *Signed by :* G. W. Ellis, G. King, W. J. Elford.

***James, Frederick Ernest,** Inter. B.Sc. (Lond.). British. 99, Lincoln Road, Forest Gate, E. 7. Analytical Chemist. *Signed by :* E. de Barry Barnett, C. G. Smith, Alfred T. French.

Johnston, Albert Arthur. English. 2, Cranfurd Rise, Maidenhead. Chief Chemist, Magnesium Castings and Products. *Signed by :* R. R. Butler, A. E. Findley, Wm. Cullen, Julian L. Baker.

Johnstone, Sydney James, O.B.E., B.Sc. (Lond.), F.I.C. British. 17, Clifford Road, New Barnet. Principal of the Mineral Resources Department, Imperial Institute. *Signed by :* David M. Freeland, A. L. Bacharach, Dorothy Jordan Lloyd, G. Roche Lynch, R. Leslie Collett.

Jones, Fred, Inter. B.Sc. (Lond.). British. 57, School Road, Moseley, Birmingham, 13. Chemist (Metallurgical), on loan from L.M.S. Railway Research Department. *Signed by :* John W. Gailer, W. J. Hickinbottom, S. D. Nicholas.

***Jones, Gwilym Thomas.** British. Neuadd Reichel, Bangor. In final year of Honours Chemistry Course at the University College of North Wales, Bangor. *Signed by :* W. Rogie Angus, O. L. Brady, G. R. Ramage.

Lewis, Clifford, B.Sc. (Wales). British. 46, Mansel Street, Port Talbot. Industrial Chemist. *Signed by :* H. B. Watson, J. Ormston, D. P. Evans.

Lewton-Brain, Norman, Dip. in Chem. Eng., King's College, London, A.I.C., A.M.I.Chem.E. British. 20, Church Lane, Prestwich, Manchester. Research Chemical Engineer. *Signed by :* Ivan Harris, G. H. J. Neville, C. J. Bushrod.

Marsden, Philip Sydney Stewart Forbes, Inter.B.Sc. (Lond.). English. 7, Stanway Gardens, Acton, W. 3. Internal Student of the University of London. *Signed by :* J. C. Crocker, E. C. Pickering, F. H. Lowe.

Martin, Geoffrey William, A.I.C. British. 30, Birch Grove, Acton, W. 3. Chemist and Production Manager. *Signed by :* David M. Freeland, C. J. Amos, D. W. Kent-Jones.

***Minkoff, Gabriel Joseph,** B.Sc.Hons. (Lond.), but not yet fulfilled residential qualifications. British. 153a, Ruden Way, Epsom Downs. Research Student at University College, London. *Signed by :* E. D. Hughes, H. G. Poole, C. K. Ingold.

***Moore, John Royston,** B.Sc.Hons. (Manc.). British. 24, Lime Grove, Chorlton-cum-Hardy, Manchester. Plant Chemist. *Signed by :* A. R. Todd, H. T. Openshaw, J. Wardleworth.

*Noble, **Dennis Alexander John,** Scholar of Lincoln College, Oxford, reading for B.A. (Hons.) in Chemistry. British. Cleveland House, Oakley Street, Shrewsbury. Undergraduate. *Signed by :* F. M. Brewer, Ronald P. Bell, N. V. Sidgwick, R. M. Lodge.

Oswald, James Wilson, A.I.C. British. 61, West Kensington Court, North End Road, W. 14. Chief Chemist. *Signed by :* R. G. Willcocks, J. A. V. Willis, S. K. Tweedy.

Page, George Ronald, B.Sc.Hons. (Lond.), A.I.C., Ph.C. British. 29, Fleet Street, Liverpool, 1. Manager, Evans Pharmaceutical Laboratories. *Signed by :* H. Humphreys Jones, H. L. Long, J. Williamson.

Parkes, Edward Burdon, M.Sc. (L'pool), F.I.C. British. 113, Redland Road, Bristol, 6. Director, Bristol Forensic Science Laboratory. *Signed by :* F. W. Rixon, W. E. Garner, E. L. Hirst, A. M. King, M. Taylor, T. Malkin, Chas. E. Clarkson.

Philip, Norman Harold, B.Sc. (Lond.), A.I.C. British. c/o The British Drug Houses, Ltd., Graham Street, N. 1. Works Control Chemist. *Signed by :* E. L. Cooper, K. J. Verrill, J. A. R. MacLean.

Pratt, Norman Hill Philpott. 5 years Pupil and Assistant to Mr. R. H. Ellis, F.I.C., F.C.S., City and County Analyst of Gloucester. 4 years Chemist to Messrs. Thames Milling Co. British. The Nook, New Road, Sharpness, Berkeley. Analytical Chemist to Messrs. Severn Mills, Ltd. *Signed by :* Rowland H. Ellis, F. E. Needs, E. L. Hirst.

Price, Harold Idris, B.Sc. and Ph.D. (L'pool). British. Shotwick Lodge, Great Saughall, Chester. Chief Chemist to a Works. *Signed by :* A. McGookin, Francis W. Kay, William Doran.

***Rae, William Duff,** B.Sc.Hons. (Aberd.). British. 101, Hilton Street, Aberdeen. Research Chemist. *Signed by:* Alex Findlay, R. B. Strathdee, T. Harold Reade, J. E. Humphries.

***Reed, Hugh Wilma Boulton,** Inter.B.Sc. British. Connaught Hall, Wessex Lane, Swaythling, Southampton. 1st year Special Chemistry Student, University College, Southampton. *Signed by :* N. K. Adam, S. H. Harper, Ishbel G. M. Campbell, William A. Bates, K. R. Webb.

***Reed, Rowland Ivor,** B.Sc. (Lond.). British. St. David's, 145, Tuffley Avenue, Gloucester. Research Student. *Signed by :* E. D. Hughes, C. K. Ingold, J. N. E. Day.

Robertson, Walter Munro, B.Sc.Hons. (Lond.), A.I.C. British. 123, Victoria Road, Tunstall, Stoke-on-Trent. Chief Chemist in Colliery Laboratory. *Signed by :* J. Newton Friend, J. Cooper Duff, W. Murray.

Saville, George Walton, B.A. and M.Sc. (Dub.), A.I.C. Irish. Dubross, Wexford. Metallurgical Chemist. *Signed by :* Kenneth C. Bailey, R. Leslie Collett, Emil A. Werner.

Schofield, Frank, B.Sc.Hons. (Leeds). British. 68, Burnley Road, Edenfield, Ramsbottom. Chemist (Shift Superintendent). *Signed by :* J. W. Baker, R. S. Bradley, R. Whytlaw-Gray, J. Colvin, M. G. Evans.

Scott, Franklin Clermont, B.Sc. (Lond.), A.I.C. British. 10a, Derby Road, Beeston. Analytical Chemist with Messrs. Boots Pure Drug Co. *Signed by :* W. F. Elvidge, A. D. Powell, H. Barnes.

***Shaw, Philip Malcolm,** B.A. (Cantab.). British. 56, Wallace Crescent, Brightons, Polmont. Works Chemist. *Signed by :* F. S. Dainton, W. G. Palmer, R. J. Loveluck.

Sibley, John Hammond, B.Sc. (Lond.), A.R.C.S., A.I.C. British. 48, Leicester Street, Leicester. Works Chemist, Imperial Typewriter Co. *Signed by :* H. L. Long, Malcolm Crawford, E. M. Stoddart.

Smith, Estelle, B.Sc. (Sydney). British. The Women's Club, Beaumont House, Elizabeth Street, Sydney. Science Teacher. *Signed by :* J. C. Earl, C. E. Fawsitt, T. Iredale.

***Stainthorpe, Kenneth Robert,** B.Sc. (Dun.). British. 8, Benwell Hill Gardens, Newcastle-on-Tyne, 5. Research Student, reading for degree of M.Sc. *Signed by :* Wesley Cocker, G. R. Clemo, Richard Raper.

Stanton, William Ronald, A.I.C. British. Ridge Crest, Foxlands Avenue, Penn, Wolverhampton. Departmental Works Manager. *Signed by :* H. Paul, Ernest N. Johnson, A. E. Alexander.

***Stephen, Joan Margaret Louise,** B.Sc. (Lond.). British. 14, Meadow Green, Welwyn Garden City. Research Chemist. *Signed by :* R. G. Heyes, Thomas S. Work, Kathleen W. Robertson.

Stephens, Francis Frederick, Assoc.M.C.T., A.I.C. British. 53, Seymour Road, Clayton, Manchester, 11. Research Chemist. *Signed by :* John K. Wood, A. F. H. Ward, G. Baddeley.

Styles, Ronald Arthur, M.A. (Cantab.), A.I.C. English. 61, Bank Street, Irvine. Plant Chemist. *Signed by :* W. D. Whitaker, J. M. C. Thompson, W. P. G. Lewis.

***Swain, Tony,** Inter. B.Sc. (Lond.). British. Mardon Hall, Exeter. Undergraduate at University College, Exeter, reading for an honours degree in Chemistry to be taken June, 1943. *Signed by :* H. T. S. Britton, John Jacques, P. T. Gilbert, S. J. Gregg, W. H. Lewis, R. King.

Sykes, George, M.Sc. (Lond.), A.I.C., English. Onchan Drive, Carlton, Nottingham. Bacteriologist. *Signed by :* W. Frank Short, E. M. Bavin, D. A. Peak.

Taylor, Max, Chemist and Druggist. British. 117, Coltman Street, Hull. Manager and Superintendent in retail pharmacy. *Signed by :* R. H. Williams, S. Burnley, J. B. Stocks.

***Tilston, Donald Vernon.** British. Sunny-Bank, Treborth, Bangor. Final year of B.Sc. (Hons.) course in Chemistry at University College of North Wales, Bangor. *Signed by :* W. Rogie Angus, G. R. Ramage, L. F. Gilbert.

Tomlinson, Kenneth, B.Sc. (Manc.), A.I.C., Graduate of the Institution of Chemical Engineers. British. Harston, Cambridge. Chemist. *Signed by :* F. S. Spring, D. C. Henry, F. Fairbrother, J. B. M. Herbert.

Turner, Francis John, B.Sc. (Lond.), A.I.C. British. 93, Redway Drive, Twickenham. Analytical Chemist. *Signed by :* Leslie H. Lampitt, R. Leslie Collett, E. B. Hughes.

Walker, Harold Augustus, A.I.C. British. 32, Parklands Drive, Loughborough. Research and Process Chemist. *Signed by :* G. Malcolm Dyson, J. A. Marriott, W. S. Stevens.

***White, Alan.** British. Lincoln College, Oxford. Undergraduate reading in the Honour School of Natural Science (Chemistry). *Signed by :* Ronald P. Bell, S. G. P. Plant, N. V. Sidgwick.

***Willing, Ernest George John,** Inter. B.Sc. (Lond.). British. Shell House, 14, The Strand, Topsham. Student at University College, Exeter, taking B.Sc. (Special) in Chemistry. *Signed by :* H. T. S. Britton, S. J. Gregg, John Jacques, P. T. Gilbert, R. King, W. H. Lewis.

Woodbury, Norman Hopton, B.Sc.Hons. (Bristol). British. 8, Bishop Road, Bishopston, Bristol, 7. Experimental Officer. *Signed by :* H. D. Springall, J. K. N. Jones, W. E. Garner.

* Reduced Annual Subscription.

Young, Edwin Harry Paterson, M.Sc. (Manc.). British. Eastbank, 60, Massie Street, Cheadle. Research Chemist. *Signed by :* F. S. Spring, A. R. Todd, A. E. Gillam.

UNDER SPECIAL PROVISION APPERTAINING TO APPLICANTS RESIDENT ABROAD.

Flint, John Percy, M.P.S. British. 300, Kingsway, Valletta, Malta. Lieutenant, R.A. *Signed by :* H. Lucas.

Hovorka, Frank, A.B. (Iowa), M.S. and Ph.D. (Illinois). Czech. Morley Chemical Laboratory, Western Reserve University, Cleveland, Ohio. Professor of Chemistry and Director of University Chemical Laboratories. *Signed by :* Olin F. Tower, Carl F. Prutton.

Wallace, Curtis Clayton, B.Sc. (Dalhousie), Fellow, The Royal Commission for the Exhibition of 1851, 1910–12. Canadian. 19th Street and Allegheny Avenue, Philadelphia, Penn. Chief Chemist to The Electric Storage Battery Co. *Signed by :* Foster Dee Snell.

PAPERS RECEIVED

List of papers received between January 22nd and February 18th, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" The structure of molecular compounds. Part I. The crystal structure of *p*-iodoaniline *s*-trinitrobenzene." By H. M. Powell, G. Huse, and P. W. Cooke.

" The structure of the boron hydrides." By H. C. Longuet-Higgins and R. P. Bell.

" The kinetics of the inhibition of the reaction between chlorine and nitric oxide." By E. M. Stoddart.

" The preparation of diazo-naphthols with observations on the nitration of 4-bromoaceto-1-naphthalide and a new procedure for the rapid hydrolysis of the 4-halogeno-2-nitroaceto-1-naphthalides." By H. H. Hodgson and S. Birtwell.

" The preparation of aldehydes by the disruptive oxidation of the ethylene linkage." By R. R. Davies and H. H. Hodgson.

" The structure of molecular compounds. Part II." By H. M. Powell and G. Huse.

" Glyoxaline formation in the phenanthrene series." By J. Reilly and A. Holland.

" Activity coefficients of zinc chloride, bromide, and iodide from electromotive forces." By (Miss) D. M. Egan and J. R. Partington.

" The hydrogenation of tutin." By S. N. Slater.

TECHNOLOGY DEPT. MAY 12 1943

March, 1943

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON.

Thursday, April 15th, 1943, at 2.30 p.m.

Ninth Liversidge Lecture on "Magnetochemistry," by Professor S. Sugden, D.Sc., F.R.S.

MEETINGS OUTSIDE LONDON.

DUNDEE.

Thursday, April 15th, 1943, at 4.30 p.m.

Tilden Lecture, on "Recent Developments in the Theory of Reaction Kinetics in Solution," by Mr. R. P. Bell, M.A., B.Sc. To be held in the Chemistry Department of the University College.

LIVERPOOL.

Friday, April 9th, 1943, at 6.30 p.m.

Lecture on "The Liquid State," by Dr. E. A. Moelwyn-Hughes. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry and with the British Association of Chemists. To be held at Reece's Restaurant, Parker Street.

NOTTINGHAM.

Friday, May 14th, 1943, at 4.30 p.m.

Lecture on "Recent Progress in Quantitative *X*-ray Analysis", by Professor J. M. Robertson, M.A., D.Sc. Joint Meeting with the University College Physical and Chemical Society. To be held in the Lecture Theatre of the Chemistry Department, University College, University Park.

SHEFFIELD.

Lecture on "Modern Technique in Inorganic Chemistry," by Dr. H. J. Emeléus. Joint Meeting with the University of Sheffield Chemical Society. To be held in the Chemical Lecture Theatre of the University, Western Bank.

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PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following:

Honorary Fellow.

	Elected.	Died.
Fred Swarts	1931	September 6th, 1940.

The following resolution has been passed by the Council:

"The President, Officers, and Council of the Chemical Society have learned with deep regret of the death on September 6th, 1940, of Professor Swarts, who was elected an Honorary Fellow of the Society in May, 1941.

"They record their high appreciation of the services Professor Swarts has rendered to the Science of Chemistry and mourn the loss of their distinguished colleague."

Fellows.

	Elected.	Died.
Henry George Denham	1907	February, 1943.
Herbert Frederick Francis Burdett Fermor	1899	January 4th, 1943.
Nikolai Semenovitsch Kurnakov	1915	March 19th, 1941.
		Killed in action.
Colin Richard Morrison-Jones	1935	July 24th, 1942.

LOCAL REPRESENTATIVE FOR GLASGOW.

Dr. James Bell has accepted the invitation of the Council to serve as Local Representative for Glasgow, in the place of Dr. T. S. Stevens, to whom the Council have conveyed their cordial thanks for the valuable services he has rendered to the Society during his term of office.

HONORARY FELLOWS.

The following have been nominated by the Council for election as Honorary Fellows of the Society:

Professor Linus Pauling,
Professor Nikolai Semenov,
Professor Nikolai Zelinsky.

Fellows wishing to lodge objections to the election of these should communicate with the Honorary Secretaries not later than Monday, April 12th, 1943.

PUBLICATIONS FOR JANUARY.

As stated in the *Proceedings* last month, to save delay, Fellows were sent the same publications for January as they received in December 1942. In order to conserve the stock, the Council would much appreciate it if Fellows would kindly return to the Society those publications which they received in excess of their requirements.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society at the Annual General Meeting on the 25th March:

C. E. Ramsden, F. L. M. Pattison, P. G. Gugenheim, and I. G. E. Wilding.

FELLOWSHIP.

The following 83 candidates were elected Fellows on March 4th:

Lauchlin Henry Dyke Acland.
Frederick George Angell.
Lionel Philip Antrobus.
Henry Robertson Archer.
Leslie Barker.
Desmond Joseph Brown.
Frederick Stanley Brown.
John Trevor Garnet Brown.
William Ritchie Birnham.
David Burns.
Eustace George Coverley Clarke.
John Howard Clent.
John Henry Collins.
Robert George Denton Crick.
Harold Crossley.
Geoffrey Arthur Dawe.
Jack De Ment.
Frank George Dewdney.
Thomas Dodgson.
Peter Stefan Elias.
Joseph Elks.
Edward Stanley Forber.
Clifford Kitchener Foster.
Solly Fox.
Geoffrey Gee.
Norbert Geller.
John Raymond Goll.
Isaac Goodman.
Robert John Gow.
Gerald Gratton.
Ronald Gordon Hanns Greene-Kelly.
Fred Lloyd Harrison.
Stephen John Hart.
James Hofton.
Iris Ada Hogben.
Donald Percy Hopkins.
Ellis Hughes.
Norman Albert Hurt.
Hans Jacob Kahn.
Robert Henry Kerlogue.
Edward Sydney Lane.
Percival Donald Liddiard.
James Scott Long.
Eric Macdonald.
Gordon McLeavy.
Desmond Christopher Mandeville.
Cyril Wheatley Maplethorpe.
Denis Haigh Marrian.
Thomas Hamilton Martin.
Eric William Mills.
Sidney Charles Mitchell.
Stanley Cecil Mitchell.
Arthur Milnes Morley.
John Nicholson.
Henry Norman Brecknock Palmer.
Kenneth Henry Pausacker.
Cyril Edward Ramsden.
Mannigay Umanath Rao.
Sarah Elizabeth Reid.
Dora Nellie Richardson.
Sir Theodore Rigg, K.B.E.
David Mark Ritson.
Frank Roffey.
Murray James Rumens.
William Sabel.
Herbert George Sammons.
Konrad Schwarzwald.
Kathleen Joyce Sinclair.
Joseph Smith.
Robert Souter.
Frank Kenneth Sutcliffe.
Gordon Roy Sutcliffe.
Alfred Kenneth Unsworth.
Peter William Weightman.
Charles Smalley Whewell.
Lawrence Whitby.
Henry Lewis White.
Peter Geden Wilkinson.
Hector Muir Dawson Wilson.
Wilhelm Wolfner.
William Stanley Wood.
William Robert Wragg.
Gilbert Bruce Wright.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, April 12th, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Addison, Cyril Clifford, B.Sc. and Ph.D. (Dun.), F.I.C. British. 19, Poulton Street, Kirkham. Analytical Chemist. *Signed by:* C. W. Gibby, G. H. Christie, E. Taylor.

Anderson, John, M.A., B.Sc., Ph.D. (St. Andrews), A.I.C. British. 29, Dingle Road, Alkrington, Middleton, Manchester. Chemist. *Signed by:* Norman H. Haddock, Ernest Chapman, Alfred Davidson.

Beaumont, Stanley, B.Sc.Hons. (L'pool). British. 29, Spennithorne Road, Stockton-on-Tees. Process Manager in a heavy chemicals works. *Signed by:* A. McGookin, Francis W. Kay, R. Leslie Collett.

Bowes, Edgar Ashcroft. British. 60, Oakwood Road, Blackhill. Analytical and Research Chemist. *Signed by:* J. H. Robson, Michael Staples, J. Stewart Cook.

Buckley, Frank Cyril, A.I.C., A.M.C.T. English. 47, Hullah Lane, Wrexham. Industrial Chemist. *Signed by:* L. A. Downing, John K. Wood, O. Rhys Howell.

Branscombe, Douglas John, M.Sc. and Ph.D. (Lond.), Dr.Ing. (Dresden). British. 9, Ashleigh Gardens, Sutton. Chemist. *Signed by:* R. E. Slade, R. M. Winter, A. Proven.

***Capp, Clifford William.** British. 96, Bridge Street, Stowmarket. Undergraduate student of Queen Mary College taking honours B.Sc. examination in June, 1943. *Signed by:* F. S. Dainton, J. R. Partington, H. D. K. Drew.

Crooks, William Milsted, B.Sc.Hons. (Lond.), A.I.C. British. Wilmar Cottage, Hedon Road, Preston, Hull. Works Chemist. *Signed by:* Alban J. Gait, A. P. Backshell, D. E. Ladhams.

***Davis, Michael.** British. 12, Albion Road, Tottenham, N. 17. Student (undergraduate) in Chemistry, Queen Mary College, University of London. Finals year B.Sc. (special). *Signed by:* F. S. Dainton, H. D. K. Drew, J. R. Partington.

Dawson, Edward Romer, M.Sc. and Ph.D. (Leeds). British. 3, Ashley Avenue, Epsom. Research Chemist with a distillers company. *Signed by:* J. Vargas Eyre, E. Horton, J. G. Maltby.

Dixon, Norman, A.M.C.T., A.I.C., F.I.R.I. English. Norence, Hale Road, Hale. Chief Chemist, W. T. Glover & Co., Ltd. *Signed by:* W. J. S. Naunton, R. Leslie Collett, W. McGillivray Morgan.

***Doran, Richard Joseph,** B.Sc. (Lond.), A.R.C.S. British. 38, Westbrook Road, Heston, Hounslow. Technical Assistant (Grade III), Ministry of Supply. *Signed by:* A. A. Eldridge, H. J. T. Ellingham, H. V. A. Briscoe.

Grant, Ewan Charles Simpson, A.H.W.C., A.I.C. British. 20, Garven Road, Stevenston. Plant Chemist. *Signed by:* James Sandilands, Robert G. M. Dakers, Hugh B. Nisbet.

***Groves, George William,** Inter.B.Sc. (Lond.). British. Connaught Hall, Wessex Lane, Swaythling, Southampton. Student, University College, Southampton. *Signed by:* K. R. Webb, N. K. Adam, S. H. Harper, I. G. M. Campbell.

Haas, Gerhard Julius, B.A. (Cantab.). Stateless. Hotel Savoy, Fy 15, Vedadv, Habana, Cuba. Assistant Chemist. *Signed by:* F. G. Mann, H. McCombie, F. G. Holliman.

Hamilton, James Alexander, B.Sc.Hons. (Glas.). British. 5, Park Hill Road, Harborne, Birmingham, 17. Research and Analytical Chemist. *Signed by :* T. S. Stevens, Andrew Kent, S. Horwood Tucker.

Hill, James, M.Sc. (Leeds), A.I.C. English. The Farm, Farm Road, Street. Chief Chemist to a firm of Shoe Manufacturers. *Signed by :* R. Faraday Innes, M. P. Balfe, J. H. Bowes.

Hock, Alfred Louis, M.Sc. and Ph.D. (Sheffield), A.I.C. British. Clifton Junction, Swinton, Nr. Manchester. Research Chemist. *Signed by :* C. H. Wood, C. J. Bushrod, G. H. J. Neville.

Houghton, Gilbert Underwood, M.Sc. (Lond.), F.I.C. British. Tree Tops, Welshwood Park Road, Colchester. Chemist and Bacteriologist. *Signed by :* R. Leslie Collett, J. W. Cook, E. de Barry Barnett.

Huggett, Leonard George, B.Sc. (Lond.), A.R.C.S., A.I.C. British. 5, Stuart Road, Acton, W. 3. In chargé of arc-welding research section of a works. *Signed by :* C. Duggan, R. W. Pearman, A. G. Rees.

***Hunt, John Harold.** British. 10, Ollards Grove, Loughton. Student (undergraduate) in chemistry at Queen Mary College, University of London. *Signed by :* F. S. Dainton, J. R. Partington, H. D. K. Drew.

Kerfoot, Jack, B.Sc.Hons. (Lond.), A.I.C. British. Fairlight, Sandylands, Church Lane, Wistaston, Crewe. Research Chemist. *Signed by :* G. H. Wyatt, A. P. Best, F. Bell.

Keyworth, Charles Maurice, M.Sc. (Leeds), F.I.C., A.M.I.Chem.E. British. Faraway, Geoffrey Avenue, Leek. Chief Chemist to a works. *Signed by :* Frederick M. Rowe, Arnold T. Peters, E. Race.

***Le Couteur, Peter,** State Bursary in Chemistry. English. L'Ancresse, Hayne Road, Beckenham. Reading for an Honour's Degree in Chemistry at Oxford University. *Signed by :* H. W. Thompson, W. Baker, E. Hope.

Makin, Fred Beresford, M.Sc. (Dun.), A.I.C. British. 26, Lattice Avenue, Ipswich. Research Chemist. *Signed by :* F. Sproxton, L. W. Turner, Geoffrey Swann.

***Martin, Charles Walter,** B.A.Hons. (Oxon). British. Heatherdale, May Hill, Monmouth. Teacher of Chemistry at King Edward's Grammar School. *Signed by :* B. Lambert, E. G. J. Hartley, F. M. Brewer.

Money, Reginald William, M.Sc. (Lond.), A.I.C. British. 26, Seaforth Lodge, Barnes, S.W. 13. Analytical Chemist. *Signed by :* E. B. Hughes, C. A. Bassett, P. Bilham.

Pollard, Frederick Henry, B.Sc. and Ph.D. (Bristol), A.I.C. British. Dept. of Chemistry, The University, Bristol, 8. Lecturer in Chemistry. *Signed by :* E. B. Maxted, G. M. Bennett, W. E. Garner.

***Pond, Vanda Ruth Gladys.** British. Fairfields, 6, Hillrise, Cuffley. Student (Undergraduate) in Special Chemistry, Queen Mary College (London University). *Signed by :* F. S. Dainton, J. R. Partington, H. D. K. Drew.

Price, Charles Harold, B.Sc. (Lond.), A.I.C. British. 56, Malvern Avenue, York. Analytical and Research Chemist. *Signed by :* H. B. Brown, B. G. McLellan, R. Leslie Collett.

***Price, Herbert,** Ph.C. (Manc.). British. School of Pharmacy, Technical College, Plymouth. Lecturer in Pharmaceutics. *Signed by :* Frank Royle, Harold Barnes, O. F. C. Bromfield.

Pullen, Gilbert George Sargeant, F.I.C. British. 30, Jubilee Avenue, Whitton. Analytical and Research Chemist. *Signed by :* J. J. Fox, R. Leslie Collett, B. A. Ellis.

Robb, Charles Alexander, B.Sc. (Q.U.B.), A.I.C., A.M.I.Chem.E. British. Bakelite, Ltd., Redfern Road, Tyseley, Birmingham. Chemical Engineer. *Signed by :* Stephen Miall, A. W. Stewart, H. Graham.

***Serin, Peter Arthur,** Inter.B.Sc. (Lond.). British. 138, Greenway Road, Runcorn. Experimental Assistant. *Signed by :* Joseph M. J. Estevez, J. W. Baker, Ronald Wood.

Shedden, Frank, B.Sc. (Lond.), F.I.C. British. 69, Highgate Road, Walsall. Retired after service in research with Messrs. Courtaulds, Ltd. *Signed by :* W. A. Glover, H. Paul, Ernest N. Johnson.

Spencer, Geoffrey, M.Sc. (Lond.), A.I.C. British. Brocket, Flash Lane, West Bollington, Macclesfield. Chemist to an Aniline Co. *Signed by :* D. S. Stephens, D. R. A. Davies, R. Tulley-Turner.

Staudinger, Hanns Peter, Dipl.Ing. and Dr.Eng. (Chem.) (Technische Hochschule, Darmstadt). Former Austrian. 11, Holman Court, Church Street, Ewell. Research Chemistry in charge of Research Section. *Signed by :* Donald Faulkner, C. A. Brighton, H. M. Stanley.

Staveley, Lionel Alfred Kilby, M.A.Hons. (Oxon). British. The Barn, New College, Oxford. Fellow of New College, Oxford, and Lecturer in Chemistry. *Signed by :* Ronald P. Bell, Harry Irving, F. M. Brewer.

Styan, George Eric, B.Sc.Hons. (Lond.), A.I.C. British. 2, Hoyle Ing Road, Thornton, Bradford. Textile Chemist, Analytical and Research (Wool). *Signed by :* R. M. Barrer, H. I. Stonehill, R. Leslie Collett.

Tobias, Benjamin Franklin, B.Sc.Hons. (Lond.), A.I.C. British. 33, Seymour Court, Winchmore Hill, N. 21. Chemical Industries Inspector, Ministry of Labour, Red Lion Square, W.C. 1. *Signed by :* Wm. Wardlaw, J. J. Fox, R. Leslie Collett.

Wallis, Ronald George, B.Sc. (Lond.), A.I.C. British. British Leather Manufacturers' Research Association. Research Chemist. *Signed by :* M. P. Balfe, R. Leslie Collett, J. H. Bowes.

Waygood, William Arthur, B.Sc. (Lond.), A.R.C.S., F.I.C. English. 45, Northwick Avenue, Kenton, Harrow. Chemist. *Signed by :* Leslie H. Lampitt, E. B. Hughes, P. Bilham.

Whitfield, George William, B.Sc.Hons. (Lond.), A.I.C. British. Paradise, Coven, Nr. Wolverhampton. Chemist. *Signed by :* J. E. B. Randles, F. S. Dainton, A. S. Nickelson.

Windridge, Mark Edwin Douglas, M.A. and B.Sc. (Oxon), A.I.C., M.Inst.S.P. British. 79, Newbridge Crescent, Wolverhampton. Research Chemist. *Signed by :* Deric W. Parkes, G. W. Usherwood, Fred G. Broughall.

Wood, William Laurence, Ph.D., M.Sc.Tech. (Sheffield), M.I.Chem.E., A.I.C. British. Vale Road East, Tonbridge. Chemical Engineer and Research Station Manager. *Signed by :* H. Langwell, J. Vargas Eyre, H. M. Stanley.

Wornum, William Esmond, M.C., B.Sc.Hons. (Lond.), A.R.C.S., F.I.C. British. 41, Codsall Road, Tettenhall. Chief Chemist. *Signed by :* George Dring, L. A. Jordan, H. W. Keenan.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Evans, Charles Emlyn, B.Sc.Hons. (Lond.), A.I.C. British. Anglo-Iranian Oil Co., Ltd., Abadan, S. Iran. Senior Chemist. *Signed by :* K. F. Bamford.

Hafez, Farid Ibrahim, B.Sc. (Fuad I University). Egyptian. Faculty of Engineering, Alexandria. Lecturer, Chemistry Department, Farouk I University. *Signed by :* Nazim Fakhoury.

* Reduced annual subscription.

Klein, Vilém, M.V.C. (Brno), formerly First Assistant, Chemical Institute Vet. College, University, Brno. Czechoslovak. 3, Royston Road, Richmond. Chemist. *Signed by :* Robt. Campbell.

Parry, Reginald Ezra, M.Sc. (Melbourne), M.I.Chem.E., A.I.C. Australian. c/o The Swan Brewery Coy., Ltd., Mounts Bay Road, Perth. Chief Chemist. *Signed by :* R. Leslie Collett.

PAPERS RECEIVED

List of papers received between February 18th and March 17th, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" The interconversion of hexoestrol and *iso*hexoestrol." By D. A. PEAK and W. F. SHORT.

" Derivatives of 1 : 2 : 4 : 5-tetrachlorobenzene. Part I. Nitro- and amino-compounds." By A. T. PETERS, F. M. ROWE, and D. M. STEAD.

" Polyhalogeno-*o*-anisidines and their derivatives." By W. S. W. HARRISON, A. T. PETERS, and F. M. ROWE.

" Formation and structure of some organic molecular compounds. Part II. Molecular compounds of *s*-trinitrobenzene with some unsaturated ketones." By J. WEISS.

" Conversion of an alcohol into the corresponding aldehyde by a less volatile aldehyde with the aluminium alcoholate as catalyst. The influence of an ethylene linkage in the reactant aldehyde." By R. R. DAVIES and H. H. HODGSON.

" Nuclear methylation of α-naphthol. A correction." By J. W. CORNFORTH, (MRS.) R. H. CORNFORTH, and SIR ROBERT ROBINSON.

" A criterion for the mechanism of the reaction between alkyl halides and hydroxylic solvents. Part III. Reactions of *n*-butyl bromide." By M. L. BIRD, E. D. HUGHES, and C. K. INGOLD.

" New syntheses of heterocyclic compounds. Part II. 6-phenyl-2 : 3 : 7 : 8-Dibenzo-1 : 5-naphthridine." By V. A. PETROV, M. V. STACK, and W. R. WRAGG.

" The kinetics of the aqueous hydrolysis of phenylbromoacetic acid." By W. R. BULCRAIG and (the late) H. M. DAWSON.

" The kinetics of the reaction between silver nitrate and the phenylbromoacetate ion in aqueous solution." By W. R. BULCRAIG and (the late) H. M. DAWSON.

" Photochemical experiments. Part VI. Formation of benzpinacol by the action of acetone on benzhydrol in sunlight." By A. SCHÖNBERG and A. MOSTAFA.

" Reactions and antibacterial properties of *p*-diazine di-*N*-oxides. (Bacterial inhibition by metabolite analogues. Part VI)." By H. MCILWAIN.

" A synthesis of methacrylic acid." By T. WHITE.

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS.

OUTSIDE LONDON.

CAMBRIDGE.

Thursday, May 13th, 1943 at 2.30 p.m.

Scientific meeting to be held in Lecture Room 1, Chemical Laboratory, Pembroke Street. The following papers will be read :—

The mechanism of indole formation from phenacylarylamines. Part I. By A. F. Crowther, F. G. Mann and (in part) D. Purdie.

Spectroscopic analysis of hydrocarbon mixtures. By G. B. B. M. Sutherland.

Catalytic hydrogenation. By E. K. Rideal.

LEEDS.

Tuesday, May 11th, 1943, at 6.30 p.m.

Lecture on "Some Consequences of Hydrogen Bond Formation in Organic Compounds," by Dr. Wilson Baker. To be held in the Chemistry Lecture Theatre of the University, Woodhouse Lane.

LIVERPOOL.

Thursday, May 6th, 1943, at 6.0 p.m.

"A Lecture-Demonstration on Certain Indicators for Volumetric Analysis," by Dr. A. D. Mitchell, F.I.C. Joint Meeting with the Local Sections of the Institute of Chemistry and the Society of Chemical Industry and with the British Association of Chemists. To be held in the Muspratt Lecture Theatre of the University.

NOTTINGHAM.

Friday, May 14th, 1943, at 4.30 p.m.

Lecture on "Recent Progress in Quantitative *X*-ray Analysis," by Professor J. M. Robertson, M.A., D.Sc. Joint Meeting with the University College Physical and Chemical Society. To be held in the Lecture Theatre of the Chemistry Department, University College, University Park.

SHEFFIELD.

Friday, May 14th, 1943, at 5.30 p.m.

Lecture on "Modern Technique in Inorganic Chemistry," by Dr. H. J. Emeléus. Joint Meeting with the University of Sheffield Chemical Society. To be held in the Chemical Lecture Theatre of the University, Western Bank.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, W. 1, on Thursday, April 15th, 1943, at 2.30 p.m.

The President, Dr. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society:

A. W. Leftwich, C. R. Oswin, S. L. Goodchild, R. V. West, Miss N. M. Czeczowiczka, E. Macdonald, Miss Nora Herzfeld, J. Graham, Miss C. M. French, and Henry R. Archer.

LIVERSIDGE LECTURE.

After a brief introduction, the PRESIDENT called on Professor S. Sugden to deliver his Liversidge Lecture entitled "Magnetochemistry."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by Dr. F. Fairbrother, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Peter Phillips Bedson	1879	April 4th, 1943
William Henry Duckworth	1901	March 8th, 1943
Arthur John Harrison	1943	February, 1943
Frederick William Jackson	1916	March 22nd, 1943
Edward Flatman Linstead	1899	April 2nd, 1943
Herbert Marsden	1907	March 23rd, 1943
Henry Forster Morley	1879	April 3rd, 1943
Archibald Durrant Ollé	1915	September 9th, 1942
Herbert Stanley Redgrove	1906	March 18th, 1943
Harold Gordon Rule	1915	March 15th, 1943
Franz Carl Schmelkes	1941	December 12th, 1942
Samuel Allinson Woodhead	1898	April 4th, 1943

CONGRATULATIONS.

The Congratulations of the Council have been conveyed to Dr. David Hooper, who completed 60 years of Fellowship on March 1st, and to Sir Shanti S. Bhatnagar, Dr. A. J. Ewins, Dr. J. J. Fox and Professor G. A. R. Kon, on their election as Fellows of the Royal Society.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. W. G. Polack for a contribution to the Publications Fund and to Messrs. E. A. C. Crouch, M. Gregory and C. H. Wood, for presenting publications of the Society.

RESEARCH GRANTS.

The Council have made the following grants from the Research Fund:

	£	s.	d.
Aliphatic nitration. (I. Dostrovsky)	10	0	0
The nitration of phenol. (G. J. Minkoff)	10	0	0
The replacement of halogen by the amino-group. (P. A. Rao)	10	0	0
Aromatic nitration. (R. I. Reed)	10	0	0

ELECTION OF HONORARY FELLOWS.

The following were elected Honorary Fellows of the Society by the Council at their meeting on April 15th, 1943:

Professor Linus Pauling (Pasadena).
Professor Nikolai Semenov (U.S.S.R.)
Professor Nikolai Zelinsky (U.S.S.R.)

COPIES OF EDUCATIONAL BOOKS FOR PRISONERS OF WAR.

An application has been received from the War Organisation of the British Red Cross Society for gifts of educational books for the use of prisoners of war. The books most wanted are popular text-books of all stages from the most elementary to the degree standard, but books published prior to 1930 would be of little use. All books must be clean and free from any annotations or underlinings.

The Council would welcome copies of such books from Fellows, which can be sent either to the British Red Cross Society, Prisoners of War Department, The New Bodleian, Oxford, or to the Chemical Society.

FELLOWSHIP.

The following 133 candidates were elected Fellows on April 15th :

Donald Malcolm Adamson.
Peter Swainston Adamson.
Cyril Clifford Addison.
David George Allen.
John Anderson.
Arthur John Marson Bailey.
Sydney George Beard.
Stanley Beaumont.
William Herbert Bennett.
Herbert Ripley Bentley.
Austin Ernest Bide.
Edgar Ashcroft Bowes.
Douglas John Branscombe.
Charles Frederick Ratcliffe Brotherton.
Frank Cyril Buckley.
Stanley Bywater.
Clifford William Capp.
Harold Gilbert Cook.
William Cooper.
William Milsted Crooks.
John Douglas Davies.
Harold Davis.
Margaret Isabel Davis.
Michael Davis.
Edward Romer Dawson.
Norman Dixon.
Richard Joseph Doran.
John Reginald Claude Duke.
Harold Garton Emblem.
Charles Emlyn Evans.
Frederick Noel Fastier.
William Thomas Field.
William Flavell.
John Percy Flint.
Alan Crofton Godfrey.
William Graham.
Ewan Charles Simpson Grant.
George William Groves.
Gerhard Julius Haas.
William Henry Hadley.
Farid Ibrahim Hafez.
Alan Montague Hall.
James Alexander Hamilton.
John Percival Hatton.
Thomas Gilbert Heafield.
George Mann Henderson.
James Hill.
Henry William John Hills.
Alfred Louis Hock.
Charles Edward Hollis.
Harry Holness.
Gilbert Underwood Houghton.
Frank Hovorka.
Leonard George Huggett.
Derek William Humphries.
John Harold Hunt.
Kenneth Henderson Jack.
Barbara Anne Jackman.
Barbara Rosamund Jacobs.
Ridley Saul Jacobs.
Stanley Jacobs.
Frederick Ernest James.
Albert Arthur Johnson.
Sydney James Johnstone.
Fred Jones.
Gwilym Thomas Jones.
Jack Kerfoot.
Charles Maurice Keyworth.
Vilém Klein.
Peter Le Couteur.
Clifford Lewis.
Norman Lewton-Brain.
Fred Beresford Makin.
Philip Sydney Stewart Forbes Marsden.
Charles Walter Martin.
Geoffrey William Martin.
Gabriel Joseph Minkoff.
Reginald William Money.
John Royston Moore.
Dennis Alexander John Noble.
James Wilson Oswald.
George Ronald Page.
Edward Burdon Parkes.
Reginald Ezra Parry.
Norman Harold Philip.
Frederick Henry Pollard.
Vanda Ruth Gladys Pond.
Norman Hill Philpott Pratt.
Charles Harold Price.
Harold Idris Price.
Herbert Price.
Gilbert George Sargeant Pullen.
William Duff Rae.
Hugh Wilma Boulton Reed.
Rowland Ivor Reed.
Charles Alexander Robb.
Walter Munro Robertson.
George Walton Saville.
Frank Schofield.
Franklin Clermont Scott.
Peter Arthur Serin.
Philip Malcolm Shaw.
Frank Shedden.
John Hammond Sibley.
Estelle Smith.
Geoffrey Spencer.
Kenneth Robert Stainthorpe.
William Ronald Stanton.
Hanns Peter Staudinger.
Lionel Alfred Kilby Staveley.
Joan Margaret Louis Stephen.
Francis Frederick Stephens.
George Eric Styan.
Ronald Arthur Styles.
Tony Swain.
George Sykes.
Max Taylor.
Donald Vernon Tilston.
Benjamin Franklin Tobias.
Kenneth Tomlinson.
Francis John Turner.
Harold Augustus Walker.
Curtis Clayton Wallace.
Ronald George Wallis.
William Arthur Waygood.
Alan White.
George William Whitfield.
Ernest George John Willing.
Mark Edwin Douglas Windridge.
William Laurence Wood.
Norman Hopton Woodbury.
William Esmond Wornum.
Edwin Harry Paterson Young.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honarary Secretaries not later than Monday, May 17th,* 1943. *Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Agnew, John, A.I.C. British. 58, Victoria Road, Runcorn. Analytical Chemist. *Signed by :* A. E. Findley, R. R. Butler, R. A. E. Galley.

Andross, Mary, B.Sc., A.I.C. British. Kilmeny, Irvine, Ayrshire. Head of Chemistry and Nutrition Department, College of Domestic Science, Glasgow. *Signed by :* J. W. Cook, T. S. Stevens, F. R. Storrie.

***Avison, Anthony William D'Aubigny,** B.Sc. (Lond.). British. 1, Heronswood Place, Welwyn Garden City. Research Chemist. *Signed by :* F. Bergel, G. V. James, A. Cohen.

Baker, Elise Grace, 15 years laboratory experience in manufacture of fluorescent materials for *X*-ray screens. British. 29, Elm Part Court, Pinner. Emulsion Chemist in charge of laboratory. *Signed by :* William H. Ballantyne, Thos. B. Clerk, A. Pound, J. N. Goldsmith.

Belcher, Kenneth Booth, A.I.C. British. 30, The Crescent, Stoats Nest Road, Coulsdon. Analytical Chemist. *Signed by :* Otto Oberländer, Gerald R. Shutt, J. N. Goldsmith.

***Brown, Peter,** B.Sc. (Lond.). British. 8, Oak Avenue, Dalton, Huddersfield. Works Chemist, I.C.I. (Dyestuffs) Ltd. *Signed by :* J. G. Jarrett, W. R. H. Hurtley, W. J. Evans.

Castle, Roger, Part I. Inter. B.Sc. British. 10, Somerset Avenue, Raynes Park, S.W. 20. Student at Imperial College, S.W. 7. *Signed by :* A. A. Eldridge, J. N. Sugden, H. V. A. Briscoe.

Clamp, William, B.Sc.Hons. (Lond.), A.I.C. British. Ivy Dene, Grantchester, Cambridge. Lecturer, South East London Technical Institute. *Signed by :* F. Barrow, F. L. Llewellyn, D. J. G. Ives.

***Clement, Henry Pearse,** Inter. B.Sc. (Dun.). English. 1, Gas Cottages, Willington. 1st year honours Chemistry student. *Signed by :* R. Raper, G. R. Clemo, Wesley Cocker.

Cone, Edgar, M.Sc. (Lond.), A.R.C.S., A.I.C., D.I.C. British. 1, Waipapa Terrace, Wellington, N.Z. Pilot Officer in R.N.Z.A.F., Meterological Branch. *Signed by :* H. V. A. Briscoe, A. A. Eldridge, H. J. T. Ellingham.

Eagleton, Sidney Douglas, A.I.C. British. 95, Harlington Road West, Feltham. Research Chemist. *Signed by :* Foster Sproxton, L. W. Turner, Geoffrey Swann.

***Fildes, Joyce Eleanor,** B.Sc. (Sydney). British. 68, Morts Road, Mortdale, N.S.W. Research Chemist. *Signed by :* J. C. Earl, T. Iredale, C. E. Fawsitt.

***Freake, Graham Alfred,** A.R.C.S. British. 574, Nacton Road, Ipswich. Analytical and Research Chemist in charge of pilot plant. *Signed by :* P. F. C. Sowter, S. F. Nicholls, S. A. Miller.

Gazzard, Edward George, B.Sc. (Lond.), A.I.C. British. 7, Beaufort Road, Brooklands, Sale. Works Chemist, I.C.I. (Dyestuffs), Ltd. *Signed by :* Edwin A. Shearing, H. T. S. Britton, S. J. Gregg, W. H. Lewis.

Gill, John Parker, B.Sc. Hons. (Leeds), A.I.C., Diploma in Dyeing (Leeds). British. 2, Kenslow Avenue, Crumpsall, Manchester, 8. Chemist (Dyestuffs Technician). *Signed by :* R. H. Peters, G. A. Rowe, Harold France.

Grice, Kenneth Darling, B.A. (Oxon). British. 31, Campden Grove, Kensington, W. 8. Research Chemist. *Signed by :* W. Baker, F. E. King, S. G. P. Plant.

Houghton, Thomas Leslie, B.Sc. (Lond.), A.I.C., A.M.C.T. British. 10, Seventh Avenue, Limeside, Oldham. Chemist. *Signed by :* O. Rhys Howell, J. Kenner, John K. Wood.

Hudson, John Christopher, D.Sc. (Lond.), D.I.C., A.R.C.S. British. 18, Bryony Road, Selly Oak, Birmingham, 29. Official investigator, Corrosion Committee, Iron and Steel Institute and British Iron and Steel Federation. *Signed by :* Guy D. Bengough, W. H. J. Vernon, Frank Wormwell.

Learmonth, Eric Mitchell, M.Sc. (Lond.), A.I.C. British. Upton Lovell, Oldfield, Bowdon. Chemist. *Signed by :* Samuel Smiles, G. H. J. Neville, R. Leslie Collett.

***Mann, Jack,** British. 71, Cope Street, Barnsley. Student in the Honours School of Chemistry, Oxford. *Signed by :* C. N. Hinshelwood, H. W. Thompson, Richard Barrow, E. J. Bowen.

***Moffatt, James Stark,** B.Sc.Hons. (Glas.). British. 21, Victoria Park Gardens North, Glasgow, W. 1. Research Student. *Signed by :* James D. Loudon, J. W. Cook, John Robertson.

***Mower, Neville,** B.Sc.Hons. (Manc.). British. 105, Oak Road, Redcar. Research Student. *Signed by :* H. T. Openshaw, J. Wardleworth, Denis H. Marrian.

Murray, Stanley Alexander James, Leaving Certificate Higher Physics and Chemistry; Evening Classes Royal Technical College, Glasgow. British. 139, Edinburgh Road, Baillieston. Analytical and Research Chemist. *Signed by :* John A. Cranston, I. Vance Hopper, A. B. Crawford.

Pike, Gordon Arthur William, B.Sc. and Ph.D. (Lond.). D.I.C., A.R.C.S. British. 1, Shaftesbury Street, Stockton-on-Tees. Chemist. *Signed by :* R. H. Stanley, J. G. M. Bremner, A. J. Prince, S. C. Bevan.

Raine, Herbert Peace, B.Sc.Hons. (Dun.). British. 13, Lady Beatrice Terrace, New Herrington, Philadelphia, Co. Durham. Chemist (Shift Manager). *Signed by :* A. Eric J. Vickers, K. W. Gee, J. G. M. Bremner.

***Sill, Albert Douglas,** B.Sc. (Lond.). English. 80, Princess Street, Bishop Auckland. Chemist with Texas Oil Company. *Signed by :* W. H. Patterson, H. D. K. Drew, D. C. Jones.

Smith, Walter MacFarlane, B.Sc. (New Brunswick), Ph.D. (McGill), Ph.D. (Cantab). British. 16, Caledon Road, Parkstone. Research Chemist. *Signed by :* F. S. Dainton, G. H. Twigg, H. Campbell, P. Johnson.

Stevenson, Colin, M.A., B.Sc. (Oxon). British. 96, Oxbridge Lane, Stockton-on-Tees. Research Chemist. *Signed by :* D. L. Chapman, S. C. Bevan, K. W. Gee.

Tincker, Maurice Arthur Holden, M.A. (Cantab), D.Sc. (Lond.), F.L.S. British. Royal Horticultural Society's Gardens, Wisley. Keeper of Laboratory. *Signed by :* H. McCombie, J. B. Whitworth, B. C. Saunders.

Walters, William Percival, M.Sc. (Wales). British. The Old Cottage, West Street, Buckingham. Research Chemist to a Dairy Company. *Signed by :* E. B. Anderson, J. Chatt, W. Cule Davies.

Wormell, Robert Louis, M.Sc. and Ph.D. (Birm.), A.I.C. British. 10, Southleigh Avenue, Coventry. Research Chemist. *Signed by :* H. Paul, Ernest N. Johnson, E. H. Sharples.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Gabriel, Charles Lester, M.S. (Massachusetts Institute of Technology); almost 30 years in the chemical industry chiefly in Research Department and Production. American. 1429 Walnut Street, Philadelphia, Penn. Vice President in charge of new developments. *Signed by :* Foster Dee Snell.

Henderson, Lawrence Melvin, Ph.D. (Chicago); Fellow-A.A.A.S.; Secretary Pet. Div. Amer. Chem. Soc.; formerly Ass't Prof. Chem. Univ. of Minn. American. P.O. Box 266, Winnetka, Ill. Supervisor of Research. *Signed by :* A. E. Dunstan.

Melville, Archibald Carswell, F.I.C. British. Box 640, 276, King Street, W., Cobourg, Ontario. Manager and Chief Chemist, The Bird Archer, Co., Ltd. *Signed by :* R. Leslie Collett.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between March 17th and April 16th, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Studies in the polyene series. Part VIII. A new anionotropic rearrangement. Isomerisation of ethinylcarbinols from αβ-unsaturated aldehydes." By E. R. H. JONES and J. T. MCCOMBIE.

"Studies in the polyene series. Part IX. The condensation product of 1-hexyne with crotonaldehyde and its anionotropic rearrangement." By I. M. HEILBRON, E. R. H. JONES, and R. A. RAPHAEL.

"Studies in the polyene series. Part X. Condensation of methylpent-2-en-4-yne. (1 : 2-dimethylvinylacetylene) with butaldehyde, crotonaldehyde and citral. Anionotropic rearrangements with vinylacetylene carbinols derived from αβ-unsaturated aldehydes." By I. M. HEILBRON, A. W. JOHNSON, E. R. H. JONES, and R. A. RAPHAEL.

"Studies in the polyene series. Part XI. The anionotropic rearrangement of the acetyleneglycol from crotonaldehyde." By I. M. HEILBRON, E. R. H. JONES, and R. A. RAPHAEL.

"The dissociation constants of some acids in mixed solvents." By J. C. SPEAKMAN.

"Benz*cyclo*octatetraenes. Part III. Diphenylene and tetraphenylene." By W. S. RAPSON, R. G. SHUTTLEWORTH, and (in part) J. N. VAN NIEKERK.

"The preparation and therapeutic properties of certain acridine derivatives. Part IV. 5-Methylacridines, further 5-styrylacridines and their quaternary salts." By W. SHARP, (MISS) M. M. J. SUTHERLAND, and F. J. WILSON.

"Note on antiseptic and trypanocidal action." By C. H. BROWNING and (MISS) K. M. CALVER.

"Some hydroxyalkylamino-acids. Part I." By WESLEY COCKER.

"Polymethylbenzoylnaphthoic acids." By R. H. MARTIN.

"Synthesis of some α-acyltetronic acids." By WILSON BAKER, K. D. GRICE, and A. B. A. JANSEN.

"A new technique for the ultimate microanalysis of organic compounds." By R. BELCHER and C. E. SPOONER.

"Catalytic reduction by formic acid under pressure. Part II. A comparison of copper and nickel as catalysts." By R. R. DAVIES and H. H. HODGSON.

"The catalytic dehydrogenation of alcohols to aldehydes in the presence of air." By R. R. DAVIES and H. H. HODGSON.

"The decomposition of diazo-compounds in neutral solution. Some observations on the diazo-coupling reaction." By H. H. HODGSON and E. MARSDEN.

"The synthesis of tryptophan." By E. T. STILLER.

"Thiazinocyanines. Part II. Cyanines containing the dihydro-1 : 3-thiazine nucleus." By F. M. HAMER and R. J. RATHBONE.

"The influence of the 6-nitro-group on the halogenation, nitration, mercuration, and diazo-coupling of 6-nitro-1-naphthylamine and of some related naphthalides." By H. H. HODGSON and H. S. TURNER.

"The preparation of 1 : 3-dinitronaphthalene from 2 : 4-dinitro-1-naphthylamine and directly from 2 : 4-dinitro-*p*-toluenesulphon-1-naphthalide." By H. H. HODGSON and S. BIRTWELL.

"Quinoxaline cyanines. Part II." By A. H. COOK and C. A. PERRY.

"Quinoxaline cyanines. Part III." By A. H. COOK and R. F. NAYLOR.

"Preparation of 3-alkylchromones. Effect of substitution on the reactivity of the 2-methyl group in chromones." By A. ZAKI and R. C. AZZAM.

"On the theory of chromatography." By J. WEISS.

"The kinetics of aromatic halogenation. Part II. The chlorination of hydrocarbons." By P. B. D. DE LA MARE and P. W. ROBERTSON.

"*Cannabis indica*. Part XII. Some analogues and a water-soluble derivative of tetrahydrocannabinol." By F. BERGEL, A. L. MORRISON, H. RINDERKNECHT, A. R. TODD, A. D. MACDONALD, and G. WOOLFE.

"Acyl migrations in the sterol series." By M. F. C. PAIGE.

"Preparation of the œstrogen αα-di-(p-ethoxyphenyl)-β-phenylbromoethylene." By W. TADROS and A. SCHÖNBERG.

CHNOLOGY DEPT:

May, 1943

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

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DETROIT

Minutes of a SCIENTIFIC MEETING

held in the Chemical Laboratories, Pembroke Street, Cambridge, on Thursday, May 13th, 1943, at 2.30 p.m.

The President, Dr. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Annual General Meeting on March 25th and of the Scientific Meeting on April 15th, which had been circulated, were taken as read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: Ivan M. Sharman, Michael Davis, John H. Hunt, Clifford W. Capp, Joshua Saper, Miss Vanda R. G. Pond, M. C. Ashworth, G. J. Stacey, B. A. Kilby, C. E. Dalgliesh, Charles Kemball, J. N. Agar, A. J. B. Robertson and D. D. Eley.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

"The mechanism of indole formation from the phenacylarylamines. Part I." By A. F. CROWTHER, F. G. MANN, and (in part) D. PURDIE.
"Spectroscopic analysis of hydrocarbon mixtures." By G. B. B. M. SUTHERLAND.
"Catalytic hydrogenation." By E. K. RIDEAL.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Alfred Walker Empson	1911	April 21st, 1943.
Adolf Jaffé	1900	March 20th, 1943.

CONGRATULATIONS.

The PRESIDENT has conveyed the congratulations of the Council to Messrs. Julian L. Baker, J. Addyman Gardner, and George Rudd Thompson, who completed 50 years of Fellowship on May 4th.

ACKNOWLEDGMENT.

The thanks of the Council have been conveyed to Sir Prafulla C. Rây for a contribution to the Library.

ADDITIONAL MEMBER OF COUNCIL.

Dr. H. J. T. Ellingham has been appointed as an additional Member of Council.

LOCAL REPRESENTATIVE FOR SHEFFIELD.

The Council have received with great regret the resignation of Dr. A. W. Chapman from the office of Local Representative for Sheffield, and have conveyed their cordial thanks to him for the valuable services he has rendered to the Society.

Dr. Brynmor Jones has been appointed to this office.

JOINT COMMITTEE ON THE TEACHING OF CHEMISTRY.

Dr. C. W. Davies, Dr. F. Fairbrother and Mr. D. Ll. Hammick have been appointed to represent the Society on the Joint Committee formed at the instigation of the Science Masters' Association to consider the teaching of Chemistry in Secondary Schools.

COMMITTEES.

The Council have conveyed their thanks to the retiring members of Committees for the services they have rendered to the Society.

The following Committees have been appointed for 1943—1944 :

Finance and General Purposes Committee.

F. H. Carr, A. E. Dunstan, Sir Alfred Egerton, H. J. T. Ellingham, G. I. Finch, R. G. W. Norrish, Sir Robert Pickard, R. E. Slade, together with the Officers, the Chairman of the Publication Committee and the representative of the Joint Library Committee on the Council of the Chemical Society. The President as Chairman, Treasurer as Vice-Chairman, and the General Secretary as Secretary.

Publication Committee.

T. S. Moore as Chairman, N. K. Adam, A. J. Allmand, R. P. Bell, E. J. Bowen, H. V. A. Briscoe, J. E. Coates, J. W. Cook, H. J. Emeléus, W. E. Garner, J. M. Gulland, C. R. Harington, G. S. Hartley, R. D. Haworth, I. M. Heilbron, T. A. Henry, D. H. Hey, E. L. Hirst, E. D. Hughes, J. Kenyon, F. G. Mann, H. W. Melville, A. Robertson, J. L. Simonsen, J. C. Smith, S. Sugden, A. R. Todd, together with the Officers, and the Editor as Secretary.

Research Fund Committee.

N. K. Adam, A. J. Allmand, J. E. Coates, J. W. Cook, I. M. Heilbron, H. McCombie, J. Kenyon, Sir Robert Robinson, A. R. Todd, together with the Officers. The President as Chairman, and the General Secretary as Secretary.

Publications Exchange Committee.

A. J. Allmand, H. Bassett, J. Kenyon, G. A. R. Kon, together with Dr. T. A. Henry (ex-officio representative of the Joint Library Committee on the Council) and the Officers, with the Librarian as Secretary.

FELLOWSHIP.

The following 34 candidates were elected Fellows on May 20th :

John Agnew.
Mary Andross.
Anthony William D'Aubigny Avison.
Elise Grace Baker.
Kenneth Booth Belcher.
Peter Brown.
Roger Castle.
William Clamp.
Henry Pearse Clement.
Edgar Cone.
Sidney Douglas Eagleton.
Joyce Eleanor Fildes.
Graham Alfred Freake.
Charles Lester Gabriel.
Edward George Gazzard.
John Parker Gill.
Kenneth Darling Grice.
Lawrence Melvin Henderson.
Thomas Leslie Houghton.
John Christopher Hudson.
Eric Mitchell Learmonth.
Jack Mann.
Archibald Carswell Melville.
James Stark Moffatt.
Neville Mower.
Stanley Alexander James Murray.
Gordon Arthur William Pike.
Herbert Peace Raine.
Albert Douglas Sill.
Walter MacFarlane Smith.
Colin Stevenson.
Maurice Arthur Holden Tincker.
William Percival Walters.
Robert Louis Wormell.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, June 14th, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Aiton, Sheina Doris,** B.Sc.Hons. (Glas.). British. 60, Haggs Road, Glasgow, S. 1. Chemist. *Signed by :* de B. Ashworth, H. E. Jackson, W. J. Wilson.

†Alcock, Robert Saxelby, M.A. and Ph.D. (Cantab.), A.I.C. British. 7, Chaucer Close, Penarth. Analyst. *Signed by :* L. J. Harris, J. R. Nicholls, J. G. A. Griffiths.

***Bell, Stanley Harding,** 3rd year Hons. Chem., University of Durham. British. 37, Beatty Avenue, North Jesmond, Newcastle-on-Tyne, 2. Undergraduate. *Signed by :* Wesley Cocker, G. R. Clemo, R. Raper.

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* Reduced annual subscription. † Three-body.

†**Bishop, Edmund,** B.Sc.Hons. (Glas.), A.R.T.C., A.I.C. English. 93, Gauldry Avenue, Cardonald, Glasgow, S.W. 2. Experimental Officer. *Signed by :* I. Vance Hopper, A. B. Crawford, F. J. Wilson.

†**Broomhall, Harry Raymond,** B.Sc. (Bristol), A.I.C. British. Stevenston. Civil Servant. *Signed by :* W. F. Bennett, J. McG. Jackson, R. Leslie Collett.

†**Bull, Lawrence Stanley,** B.Sc. (Lond.), A.I.C. British. 47, Chester Avenue, Cranham, Upminster. Research Chemist. *Signed by :* C. G. Smith, Ernest A. Rudge, F. L. Allen.

***Carasso, Iseo Isaac.** Greek. Ronwyn, Ashford Road, Hinckley. 2nd year Honours Chemistry Student at Leicester University College. *Signed by :* L. Hunter, A. Hickling, C. K. Tinkler.

***Coates, John William,** Student for B.Sc. (Lond.). British. 55, Attimore Road, Welwyn Garden City. Research Assistant. *Signed by :* Laurence M. Smith, J. W. C. Crawford, R. G. Heyes.

Granichstadten, Heinz, Ph.D. (Edin.). Austrian. 2, The Valley Green, Welwyn Garden City. Research Chemist. *Signed by :* Laurence M. Smith, J. W. C. Crawford, E. G. Percival.

†**Harrison, Guy Warwick,** B.Sc. (Lond.), A.I.C. British. 72, Chaddesden Lane, Chaddesden, Nr. Derby. Works Chemist. *Signed by :* Alex. Findlay, A. L. Bacharach, R. Leslie Collett.

‡**Hayward, Leonard Raymond.** British. 44, Langley Broom, Langley, Nr. Slough. Research Chemist (Starch, adhesives and dehydration of foods). *Signed by :* Thomas McLachlan, M. J. Curran, F. A. Lyne.

†**Hind, Stanley Reginald,** B.Sc.Hons. (Lond.), A.R.C.S., F.I.C. English. Rose Hill House, Clifton, Nr. Manchester. Consultant to the Ceramic Industry. *Signed by :* H. V. Thompson, F. H. Clews, H. M. Richardson.

***Holdstock, Michael Douglas.** British. 18, Church Lane, Leytonstone, E. 11. Student (Special B.Sc. in Chemistry). *Signed by :* R. W. Jukes, H. Holmes, I. L. Finar.

***Kinns, Ronald Sydney.** British. 3, Gimson Road, Leicester. 3rd year Honours Chemistry Student at University College, Leicester. *Signed by :* L. Hunter, A. Hickling, C. K. Tinkler.

Latimer, William, M.P.S. Pharmacist. British. 14, Wandsworth Road, Newcastle-on-Tyne, 6. Medical Student at King's College, Newcastle-on-Tyne. *Signed by :* J. J. Blackie, G. Perrins, W. A. Beattie.

†**Lawrence, Samuel George,** B.Sc.(Lond.), A.I.C. English. 27, Granby Road, Mile End, Stockport. Head of the Department of Chemistry, Stockport College for Further Education. *Signed by :* John Graymore, J. G. Finlayson, F. E. Rymill.

Lennard, Jack. British. Anlaby Road, Hull. Assisting in General Chemistry. *Signed by :* S. Burnley, R. H. Williams, Harry Thompson.

Lewis, Frank Basil, B.Sc. and Ph.D. (Lond.), D.I.C., M.P.S. British. The Hall, 5, Foxes Dale, Blackheath, S.E. 3. Research Chemist. *Signed by :* I. M. Heilbron, A. H. Cook, E. R. H. Jones.

***McKay-Ohm, Daphne Patricia,** B.A.Hons. (Cantab.). British. Colyford, Colyton. Research Student. *Signed by :* M. L. Tomlinson, A. J. Berry, W. J. Palmer.

†**McCanlis, Arthur William Hepburne,** M. A.(Cantab.), A.I.C., R.A.Inst.W.E. British. 45 Eaton Road, Sutton. Chemist and Bacteriologist, Sutton District Water Coy. *Signed by :* S. H. Cakebread, J. E. Coppock, R. Leslie Collett.

***Phillips, Leslie Nathan.** British. 7, Redlands Road, Reading. Research Assistant to the Advisory Entomologist. *Signed by :* J. R. Partington, V. A. Petrow, David Mess.

†**Pitts, Frank.** M.A. (Cantab.), A.I.C. British. The Gables, Brookfield Road, Lymm. Research Chemistry. British Aluminium Co., Ltd. *Signed by :* Thomas C. Pearson, W. H. Hadley, H. W. L. Phillips.

***Reynolds, Norman George.** British. 191, Brandon Street, Leicester. 2nd year Honours Chemistry Student, University College, Leicester. *Signed by :* L. Hunter, C. K. Tinkler, A. Hickling.

†**Rodnight, Eric Wakelin,** B.Sc. (Lond.). British. 58, Belle Vue Grove, Middlesbrough. Plant Manager and Technical Assistant. *Signed by :* A. J. Prince, K. W. Gee, Michael H. M. Arnold.

Sheridan, John, B.A. (Oxon.). British. Lincoln College, Oxford. Research Student. *Signed by :* D. Ll. Hammick, N.V. Sidgwick, S. G. P. Plant.

†**Stevens, Sidney George Edward,** B.Sc. (Lond.), F.I.C. British. 123, Coldharbour Lane, Camberwell, S.E. 5. Analytical and Consulting Chemist. *Signed by :* C. Edward Sage, D. C. Garratt, H. E. Cox.

†**Waite, Deryck Woodrow Henry,** B.Sc.Hons. (Lond.), A.I.C. British. 18, Hamboro Gardens, Leigh-on-Sea. Observer, Fleet Air Arm. *Signed by :* Leslie H. Lampitt, E. B. Hughes, P. Bilham.

Wills, Eric Douglas, B.Sc.Hons. (Lond.), A.I.C. British. 55, Semley Road, Norbury, S.W. 16. Lieut. (Technical Officer) in the R.E.M.E. *Signed by :* W. H. Patterson, J. R. Partington, H. D. K. Drew.

***Wolstencroft, John Hollas.** Nat. Sci. Trip. Pt. I. of Cambridge University passed in 1942. Inter B.Sc., Manchester University taken in 1940. British. Starholm, Nether Wasdale. Experimental Assistant. *Signed by :* Albert Taylor, E. G. Cowley, S. Hornsby.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Bratton, George S.,** A.B. (Tenn.), M.S. (Pittsburgh). American. Anheuser-Busch Inc., 721, Pestalozzi Street, St. Louis. Director of Laboratories. *Signed by :* Foster Dee Snell.

†**Dyson, Watson Harold,** M.A. (Cantab.), F.I.C. British. Norman House, Isipingo Beach, Natal. Chemist. *Signed by :* R. Leslie Collett.

Fiekers, Bernard Albert, Rev., S.J., A.M. and M.Sc. (Boston), Ph.D. (Clark). American. Department of Chemistry, Holy Cross College, Worcester, Mass. Chairman of Holy Cross College. *Signed by :* F. O. Rice.

‡**Nevin, James Victor,** Ph.D. (Heidelberg), Registered Pharmacist State of California, Inventor of numerous Patents pertaining to synthetic resins. From 1913—1916, acted as Chemist to California State Board of Pharmacy. American. 832, S.W. Westwood Drive, Portland, Oregon. Research Chemical Engineer. *Signed by :* Foster Dee Snell.

* Reduced annual subscription. † Three-body. ‡ Two-body.

PAPERS RECEIVED.

List of papers received between April 16th and May 20th, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Further observations on the optically active $\alpha\gamma$-dimethylallyl alcohols." By M. P. BALFE, H. W. J. HILLS, J. KENYON, H. PHILLIPS, and B. C. PLATT.

"(Note.) Some ethers of 4-chloro-2-nitro-3 : 5-dimethylphenol." By BRYNMOR JONES.

"The chemistry of 2 : 4-diarylpyrroles. Part I. Synthesis of 2 : 4-diarylpyrroles and 2 : 2′ : 4 : 4′-tetra-arylazadipyrromethines." By M. A. T. ROGERS.

"The chemistry of 2 : 4-diarylpyrroles. Part II. Methines." By M. A. T. ROGERS.

"The chemistry of 2 : 4-diarylpyrroles. Part III. 3-Amino-2 : 4-diphenylpyrrole." By M. A. T. ROGERS.

"The absorption spectra of some meta-substituted phenols, and the influence of nucleophilic substituents on electronic mobility." By H. H. HODGSON.

"Union of aryl nuclei. Part VI. Reactions with 1-aryl-3 : 3-dimethyltriazenes." By J. ELKS and D. H. HEY.

"Relationships between the surface tensions, densities, and critical constants of liquids." By D. T. LEWIS.

"The heat of adsorption of ethyl chloride and of sulphur dioxide on sugar charcoal." By S. J. GREGG.

"Cinnolines. Part II. The influence of substituents on the Widman–Stoermer and Pschorr reactions." By J. C. E. SIMPSON.

"(Note.) Alkyl-oxygen fission in sulphinic esters." By M. P. BALFE, J. KENYON, and A. L. TÁRNOKY.

"The *Senecio* alkaloids. Part I. Rosmarinine." By (MISS) M. F. RICHARDSON and F. L. WARREN.

"The preparation of the 4-halogeno-2-naphthols and of 4-nitro-2-naphthol, with a note on the resonance structure of the internal diazo-oxides (diazo-naphthols)." By H. H. HODGSON and S. BIRTWELL.

"An experimental study of chromatography." By H. WEIL-MALHERBE.

HNOLOGY DEPT.

June, 1943

PROCEEDINGS
OF THE
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OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Charles Ridgway Beck	1890	May 4th, 1943
William Arthur Harrison Naylor	1878	May 30th, 1943
John Scott Thomson	1912	April 4th, 1943

CONGRATULATIONS.

The congratulations of the Council have been conveyed to the following Fellows, whose names appeared in the Birthday Honours List:

Professor J. N. Mukherjee	C.B.E.
Professor F. H. Garner	O.B.E.

and to the following, who have completed 60 and 50 years of Fellowship:

60 years of Fellowship.

	Elected.
Rowland Williams	June 21st, 1883.

50 years of Fellowship.

Robert Saunderson Cahill	June 15th, 1893.
John Henry Coste	,, ,,
Charles Mills	,, ,,
John Watson Napier	,, ,,
Henry Thomas Sorrell	,, ,,
Frank Ernest Thompson	,, ,,

ACKNOWLEDGMENTS.

The Council have expressed their thanks to Professor E. L. Kennaway for presenting a small replica of a portrait medallion presented to the late Professor Albrecht Kossel on his 60th birthday, and to Messrs. G. P. Forrester and E. A. Rayner for presenting volumes of the *Journal of the Chemical Society*.

RESEARCH GRANT.

The Council have made the following grant from the Research Fund:

The alkaloids of *Gelsemium Sempervirens* (T. S. Stevens) £10 0 0

ANNUAL REPORTS FOR 1942.

It is hoped that Volume XXXIX of the *Annual Reports* (1942) will be issued shortly.

FELLOWSHIP.

The following 32 candidates were elected Fellows on June 17th:

Sheina Doris Aiton.
Robert Saxelby Alcock.
Stanley Harding Bell.
Edmund Bishop.
George S. Bratton.
Harry Raymond Broomhall.
Lawrence Stanley Bull.
Iseo Isaac Carasso.
John William Coates.
Watson Harold Dyson.
Bernard Albert Fiekers.
Heinz Granichstadten.
Guy Warwick Harrison.
Leonard Raymond Hayward.
Stanley Reginald Hind.
Michael Douglas Holdstock.
Ronald Sydney Kinns.
William Latimer.
Samuel George Lawrence.
Frank Basil Lewis.
Arthur William Hepbune McCanlis.
Daphne Patricia McKary-Ohm.
James Victor Nevin.
Leslie Nathan Phillips.
Frank Pitts.
Norman George Reynolds.
Eric Wakelin Rodnight.
John Sheridan.
Sidney George Edward Stevens.
Deryck Woodrow Henry Waite.
Eric Douglas Wills.
John Hollas Wolstencroft.

GENERAL ANNOUNCEMENT

PROPOSED SENTER PHYSICAL CHEMISTRY LABORATORY.

It is proposed to commemorate the work of the late Dr. George Senter, Principal of Birkbeck College from 1918–1939, by founding in his honour a Laboratory for the purpose of research in Physical Chemistry in the new College buildings. Donations, large or small, may be sent to Mr. H. Gordon Jackson, Acting Master, Birkbeck College, Breams Buildings, E.C.4.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, July 12th, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

†**Aherne, John Christopher,** M.Sc. and H.Dip.Ed. (N.U.I.), A.I.C. Irish. 5, Glendalough Park, The Lough, Cork. Head of the Chemistry Department, Crawford Municipal Technical Institute, Cork. *Signed by :* Michael A. Fielding, P. J. Fielding, J. Reilly.

Barnett, Jean Winifred, M.Sc. (Lond.), D.Sc.Techn. (Zürich). British. 46, Aberdare Gardens, Maida Vale, N.W. 6. Senior Research Assistant, Research Department, Glaxo Laboratories, Ltd. *Signed by :* F. A. Robinson, A. L. Bacharach, B. Arthur Hems.

†**Barron, Harry,** B.Sc. and Ph.D. (Lond.), F.I.C., A.I.R.I. British. Spinney Corner, Bassett Avenue, Southampton. Head of Plastics Development Department of a Works. *Signed by :* N. K. Adam, S. H. Harper, K. R. Webb.

†**Bennett, Sidney Frank,** B.Sc. (Lond.), A.I.C. British. Mill House, Dole Lane, Chorley. Analytical Chemist. *Signed by :* Cecil L. Wilson, R. Leslie Collett, J. K. Stuart.

†**Chapman, William Bernard,** A.I.C. (examination passed but not yet elected). British. 47, Otter Street, Derby. Junior Assistant, Analyst Dept. County Offices, St. Mary's Gate, Derby. *Signed by :* J. Ratcliffe, R. W. Sutton, J. Markland.

‡**Collison, William.** British. West Mount, Stanhill, Oswaldtwistle. Managing Director of W. Blythe & Co., Ltd., and John Riley & Sons, Ltd. *Signed by :* W. Boardman, W. H. Bentley, H. Heron.

‡**Elce, Alec,** B.Sc.Hons. (Lond.). British. 30, Burghwood, Banstead. Research Chemist. *Signed by :* H. Langwell, C. B. Maddocks, Henry R. Archer.

Farage, Francis Fredrick. Chemical Manufacturer. British. 27, Brayton Avenue, Didsbury, Manchester, 20. Director and General Manager of Cumming, Parsons, Ltd., Manchester, 9 (a firm of Manufacturing Chemists). *Signed by :* Gavin Lawson, A. F. Mason, J. W. Reidy.

Gledhill, Harold. Forty years Manufacturing Chemist. British. Mayfield, Argomeols Road, Freshfield, Liverpool. Managing director of two Companies engaged on Galenicals and foods. *Signed by :* Gavin Lawson, A. F. Mason, J. W. Reidy.

†**Hartley, Edward Arthur,** A.I.C. British. 7, Stumperlowe Mansions, Sheffield, 10. Manager and Research Chemist, Mellowes & Co., Ltd., Plastic Department. *Signed by :* S. R. Carter, Garfield Thomas, Geo. King.

†**Illing, Edward Thomas,** B.Sc. (Lond.), F.I.C. British. Fuzzy Dee, Broadlands Way, Taunton. Deputy Public Analyst and Bacteriologist. *Signed by :* F. P. Dunn, R. Leslie Collett, Lewis Eynon.

†**Jackson, Thomas Worthington,** B.Sc. (Lond.), A.I.C. British. 23, Squirrels Heath Lane, Gidea Park, Romford. Research Chemist. *Signed by :* H. Drake Law, J. H. Seager, Douglas F. Anstead.

James, John Edmund, A.I.C. British. 2, Waldegrave Court, Waldegrave Gardens, Upminster. Chief Works Chemist. *Signed by :* E. R. Redgrove, A. E. Dunstan, Harold Moore, E. A. Evans.

Jones, Richard, Assoc. M.Inst.Gas Eng. British. Elmhurst, Stanley Park, Rhyl. Technical Assistant Engineer and Chemist to the Rhyl U.D. Council, Gas and Water Department. *Signed by :* O. P. Cronshaw, R. O. Roberts, Thos. Haworth.

Lerner, Max. Stateless. Columbia House, Aldwych, W.C. 2. Chemical Adviser and Director-Proxy of J. C. Gilbert, Ltd. *Signed by :* W. M. Seaber, A. C. Davall, George Taylor.

‡**Lockett, William Thomas,** B.Sc.Hons. and M.Sc. (Manc.), Grocers' Company Research Scholar (Sanitary Science), 1914—1917. British. West Middlesex Main Drainage, Mogden Works, Isleworth. Chief Chemist. *Signed by :* Percy F. Frankland, W. N. Haworth, R. Robinson.

Osborn, George Howard. British. Chiltern House, 101 Walton Road, Aylesbury. Author of several publications in leading scientific journals. Member of Mineralogical Society. Delivered lecture on "The British Fluorspars" to this Society on November 5th, 1942. *Signed by :* Max H. Hey, R. Barrington Brock, R. C. Chirnside.

Ottenstein, Herta Dora, Ph.D. (Pavia), State Examination (Florence). Stateless. 30, Frognal Court, 160, Finchley Road, N.W. 3. Industrial and Research Chemist. *Signed by :* Leo Ivanovszky, K. Strauss, F. Hiller.

***Parker, Leslie Frederick John,** Inter.B.Sc., B.Sc.(Subsid.) Maths. British. 34, St. David's Hill, Exeter. Reading for Honours Degree in Chemistry to be taken in June, 1943. *Signed by :* H. T. S. Britton, S. J. Gregg, R. King.

†**Pates, Edward William,** M.Sc. (Lond.), F.I.C. A.M.I.Chem.E., F.I.I.A. British. 19, West Lodge Court, Uxbridge Road, West Acton, W. 3. Chemist and Chemical Engineer, Glaxo Laboratories, Ltd. *Signed by :* E. Lester Smith, A. L. Bacharach, F. A. Robinson.

***Richards, Rex Edward.** Studying for Honour School of Chemistry, Oxford. British. St. John's College, Oxford. Student. *Signed by :* Ronald P. Bell, H. W. Thompson, C. N. Hinshelwood.

†**Scaife, Charles William,** B.Sc.Hons. and Ph.D. (Leeds), Dip. Ed. British. 5, Newlands Avenue, Norton Road, Stockton-on-Tees. Research Chemist, Imperial Chemical Industries. *Signed by :* A. J. Prince, A. E. Wilder Smith, R. H. Stanley.

†**Southwood, John,** A.I.C. British. 156, Derby Road, Widnes. Chemist. *Signed by :* R. R. Butler, A. E. Findley, Eric J. Holland.

*Topham, **Arthur,** B.Sc.Hons. (Lond.), A.I.C. British. 17, Broxton Avenue, Daubhill, Bolton. Taking Ph.D. course at Manchester University. *Signed by :* Ronald Cuthill, B. Lythgoe, A. R. Todd.

†Treadwell, **Ronald Henry,** Fellow of the Institute of Medical Laboratory Technology. British. 19, Greenway, Wells Estate, Epsom. Pathological Laboratory Technician, and in charge of E.M.S. Laboratories, Sutton Emergency Hospital. *Signed by :* Mollie E. Heppenstall, E. R. Dawson, Cyril A. Brighton.

*Turner, **Michael John Frederick,** Inter.B.Sc. and Subsid. Physics. B.Sc. (Lond.). British. Connaught Hall, Wessex Lane, Swaythling, Southampton. Student. *Signed by :* N. K. Adam, S. H. Harper, Ishbel G. M. Campbell.

†Welsh, **Joseph Peter,** B.Sc.Hons. (Dun.), A.I.C. British. 28, Sutton Court Road, Sutton. Research Chemist. *Signed by :* J. Lloyd Bentley, H. L. Riley, Richard Raper.

†Whitehead, **John Kenneth,** M.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C. British. 10, Barkston Gardens, S.W. 5. Temporary Chemist at Government Laboratory. *Signed by :* J. R. Nicholls, J. G. A. Griffiths, B. A. Ellis.

†Whittle, **Ernest George,** B.Sc. (Lond.), F.I.C. British. Rockleigh, Wilton Street, Taunton. Analytical Chemist and Bacteriologist to the Somerset County Council. *Signed by :* Alex Findley, R. Leslie Collet, E. L. Hirst.

†Williams, **Frank Ronald,** Ph.D. and B.Sc.Hons. (Lond.), F.I.C. British. 15, North Albert Road, Norton, Stockton-on-Tees. Chief Analyst, The British Titan Products Co., Ltd. *Signed by :* A. Eric J. Vickers, G. I. Higson, H. L. Riley, R. W. Ancrum.

*Williams, **John Glenydd Eirwyn,** B.Sc.Hons. (Wales), A.I.C. British. Cil-Mynach, Barmouth. Superintendent Chemist. *Signed by :* J. L. Simonsen, G. R. Ramage, O. L. Brady, L. F. Gilbert.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡Hosford, **Charles Franklin,** Jr., B.D. (Princeton), LL.B. (Harvard). American. Pennsylvania Coal Products Co., Petrolia, Penn. President and General Manager of Pennsylvania Coal Products Co. *Signed by :* Foster Dee Snell.

‡Stroud, **Richard Harris,** B.Sc.Hons. (Sydney). British. Dalveen, 11, Chalmers Road, Strathfield, Sydney, N.S.W. Plant Superintendent, Chemical Munitions Annexe. *Signed by :* J. C. Earl.

* Reduced annual subscription. † Three-body. ‡ Two-body.

PAPERS RECEIVED.

List of papers received between May 20th and June 17th, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The course of autoxidation reactions in polyisoprene and allied compounds. Part III. The oxidation of rubber in the presence of acetic acid or acetic anhydride." By G. F. Bloomfield.

"Heterocyclic nitrogen compounds. Part I. Some derivatives of 7 : 16-diazanaphthacene." By H. H. Hatt and (Miss) E. F. M. Stephenson.

"The influence of alkylation on the reactions of acid derivatives in the Friedel-Crafts synthesis." By E. Rothstein and M. A. Saboor.

"The determination of dissociation constants of monobasic acids. Part II. The extrapolation method." By D. J. G. Ives and K. Sames.

"The determination of dissociation constants of monobasic acids. Part III. The strengths of some cyano-acids." By D. J. G. Ives and K. Sames.

"Derivatives of 1 : 2 : 4 : 5-tetrachlorobenzene. Part II. *N*-Nitro-amino-compounds." By A. T. Peters, F. M. Rowe, and D. M. Stead.

"Evidence in favour of the sulphite and sulphonate structures for Hantzsch's potassium benzene-*syn*- and *anti*-diazo-sulphonates." By H. H. Hodgson and E. Marsden.

"The preparation of 2 : 3-dinitronaphthalene and of 3-nitro-2-naphthylamine." By H. H. Hodgson and H. S. Turner.

"New therapeutics of the quinoline series. Introduction and Part I. Monopyridylquinolines." By H. Coates, A. H. Cook, I. M. Heilbron, D. H. Hey, A. Lambert, and (in part) F. B. Lewis.

"New therapeutics of the quinoline series. Part II. Dipyridylquinolines." By A. H. Cook, I. M. Heilbron, D. H. Hey, A. Lambert, and (in part) A. Spinks.

"New therapeutics of the quinoline series. Part III. Methoxy-, hydroxy-, and alkyl-pyridylquinolines." By H. Coates, A. H. Cook, I. M. Heilbron, D. H. Hey, A. Lambert, and (in part) F. B. Lewis.

"New therapeutics of the quinoline series. Part IV. Lutidylquinolines." By A. H. Cook, I. M. Heilbron, and L. Steger.

"New therapeutics of the quinoline series. Part V. Pyridylacridines." By A. H. Cook, I. M. Heilbron, and A. Spinks.

"New therapeutics of the quinoline series. Part VI. Quinoyl thiazoles, amidines, and pyrroles." By H. Coates, A. H. Cook, I. M. Heilbron, and F. B. Lewis.

"Experiments on the synthesis of purine nucleosides. Part I. Model experiments on the synthesis of 9-alkyl-purines." By J. Baddiley, B. Lythgoe, D. McNeil, and A. R. Todd.

"Experiments on the synthesis of purine nucleosides. Part II. A new and convenient synthesis of adenine." By J. BADDILEY, B. LYTHGOE, and A. R. TODD.

"Some reactions of amidines with derivatives of malonic acid." By G. W. KENNER, B. LYTHGOE, A. R. TODD, and A. TOPHAM.

"The polymerisation of acetaldol." By L. N. OWEN.

"The oxygenation of crotonaldehyde." By L. N. OWEN.

"The Diels–Alder synthesis with 2 : 3-dimethylquinoxaline. The reaction between maleic anhydride and anthranil." By A. SCHÖNBERG and A. MOSTAFA.

TECHNOLOGY DEPT.

July, 1943

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PROCEEDINGS
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OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Alfred Archibald Boon	1914	April 1st, 1943
Samuel Felix Dufton	1893	June 24th, 1943.
Bedo Hobbs	1883	December 27th, 1939.
Walter George Messenger	1941	May 3rd, 1943.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Dr. Alexander Scott for presenting an album of photographs of distinguished Chemists and sets of the Journal and Abstracts A, and to Mr. T. McLachlan for a contribution to the Publications Fund.

FELLOWSHIP.

The following 31 candidates were elected Fellows on July 14th:

John Christopher Aherne.
Jean Winifred Barnett.
Harry Barron.
Sidney Frank Bennett.
William Bernard Chapman.
William Collison.
Alec Elce.
Edward Arthur Hartley.
Charles Franklin Hosford.
Edward Thomas Illing.
Thomas Worthington Jackson.
John Edmund James.
Richard Jones.
Max Lerner.
William Thomas Lockett
George Howard Osborn.
Herta Dora Ottenstein.
Leslie Frederick John Parker.
Edward William Pates.
Rex Edward Richards.
Charles William Scaife.
John Southwood.
Richard Harris Stroud.
Arthur Topham.
Ronald Henry Treadwell.
Michael John Frederick Turner.
Joseph Peter Welsh.
John Kenneth Whitehead.
Ernest George Whittle.
Frank Ronald Williams.
John Glenydd Eirwyn Williams.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, August 16th, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

***Amphlett, Colin Bernard,** B.Sc.Hons. (Birm.). British. 77, Dudley Wood Road, Cradley Heath. Research Chemist, University of Birmingham, reading for degree of Ph.D. *Signed by:* Stanley Peat, W. N. Haworth, M. Stacey.

Avrill, Charles Rochford. Written Papers on Plumbago and Carbon Compounds. British. 22, Duchy Street, S.E. 1. Graphite products manufacturer. *Signed by:* Walter Lloyd Willey, O. T. Baldwin, John Knaggs.

***Baker, Brian Patrick,** A.I.C. British. 10, Ripplevale Grove, Barnsbury, N. 1. Research Chemist. *Signed by:* E. de Barry Barnett, F. G. Sayer, N. A. C. Pryce.

***Blacklock, John Kenneth.** British. 6, Hauxley Gardens, Newcastle-upon-Tyne, 5. 3rd Year Honours Chemistry Student, University of Durham. *Signed by:* Wesley Cocker, Richard Raper, G. R. Clemo.

***Bourne, Edward John,** B.Sc.Hons. (Birm.). British. 15, Victoria Street, Cannock. Research Student at Birmingham University. *Signed by:* Stanley Peat, W. N. Haworth, M. Stacey.

***Carroll, Thomas Cyril Nicholas.** After 1 year in Forces, B.A. (wartime), 2nd Class Hon. Mods. (Nat. Sci.) Oxon. and special examination in Chemistry with Advanced Paper. English. Christ Church, Oxford. R. Corps. Signals. *Signed by:* Ronald P. Bell, A. S. Russell, F. E. King.

***Chackett, Kenneth Frederick,** B.Sc. (Birm.). British. 47, Allport Road, Cannock. Research Chemist reading for degree of Ph.D. *Signed by:* M. Stacey, Stanley Peat, W. N. Haworth.

***Childs, Anthony Francis,** B.A. (Oxon.). British. 7, Polstead Road, Oxford. Research in Organic Chemistry for the Ministry of Supply. *Signed by:* Ronald P. Bell, S. G. P. Plant, N. V. Sidgwick.

***Daniel, Francis William,** B.Sc.Hons. (Lond.), A.I.C. 5 Years' Industrial Research. British. 205, Gunnersbury Lane, Acton, W. 3. Flying Officer, Technical (Armament) Branch R.A.F.V.R. Normally employed by Gas Light & Coke Company. *Signed by:* H. Hollings, D. J. G. Ives, F. Barrow.

***Dawson, Ian McPhail.** British. Euroa, Tighnabruaich, Argyll. Student of Chemistry. *Signed by :* James Bell, George Thomson, David T. Gibson.

Dean, John Alfred, B.Sc. (Birm.). British. 18, Ashgrove, Ripon. Technical Officer, H.M.S. *Ferret*, Sub.-Lt. R.N.V.R. *Signed by :* W. N. Haworth, M. Stacey, Stanley Peat.

Evans, Alwyn Gwynne, M.Sc. and Ph.D. (Manc.). British. 9, Waller Avenue, Fallowfield, Manchester. Assistant Lecturer in Chemistry, Manchester University. *Signed by :* J. B. M. Herbert, G. N. Burkhardt, Colin Campbell.

Forrest, Hugh Sommerville. British. 1389, Pollokshaws Road, Glasgow, S. 1. 3rd Year Student at Glasgow University studying for B.Sc. (Pure Science) Hons. in Chemistry. *Signed by :* John A. Mair, George Thompson, Stotherd Mitchell.

†Garrett, Horace Edward, A.I.C. British. 5, Martland Way, Wollavington, Bridgwater. *Signed by :* J. J. Fox, R. Leslie Collett, B. A. Ellis.

†Griffiths, John Preedy, B.Sc. (Lond.), A.R.C.S., D.I.C., F.I.R.I., A.I.C. British. Shirley House, Pittville Circus Road, Cheltenham. General Manager and Technical Director. *Signed by :* J. J. Fox, B. A. Ellis, R. Leslie Collett.

***Hall, Reginald Harold,** B.Sc. (Lond.), A.R.C.S. British. 75, Surrey Grove, Sutton. Research Chemist, Imperial College of Science and Technology, S.W. 7. *Signed by :* A. H. Cook, E. R. H. Jones, J. A. Kitchener.

†Hetherington, John Arthur, B.Sc. and Ph.D. (Dun.), A.I.C. British. White House, Lawford, Nr. Manningtree. Research Chemist. *Signed by :* Geoffrey Swann, P. S. Adamson, R. S. Colborne.

Hinchley, John Ronald, Intermediate Science and Matriculation (Lond.). English. 1, Albany Avenue, Higher Openshaw, Manchester, 11. Chemist and Physicist, Research Department at Container Manufacturers. *Signed by :* H. A. Thomas, J. Graymore, and R. Fraser Thomson.

***Judson,** Joyce Muriel, B.Sc. (Lond.). British. 5, St. Mary's Road, Crumpsall, Manchester, 8. Research Chemist. *Signed by :* K. B. Wilson, A. F. Crowther, Francis Irving.

Lemin, Denis Ronald, B.Sc. (Lond.). British. 88, Crumpsall Lane, Manchester, 8. Chemist with I.C.I. (Dyestuffs), Ltd. *Signed by :* Harold France, L. E. Luft, R. H. Peters.

Moor, Edward. Thorough practical experience in Chemical Works Control. English. Hillside, Sunny Bower, Tottington, Nr. Bury. Chemical Works Manager. 6 Years' Laboratory Assistant, Pease & Partners, Ltd. 2 Years' Senior Analyst, I.C.I. 12 Years' Plant Manager, Eaglescliffe Chemical Co. 2 Years' Works Manager, E. P. Potter & Co., Ltd. *Signed by :* H. E. J. Cory, E. J. Bond, A. W. Cowburn.

***Osborne, John Francis.** British. 24, Dashwood Road, Banbury. Studying Chemistry in Banbury County School (Sixth Form). *Signed by :* J. S. Carter, F. N. Ashcroft, W. J. Wilson.

***Pate, Norman Elliott,** B.Sc.Hons. (Edin.). British. Schoolhouse, St. Boswells. H.M. Forces. *Signed by :* E. G. V. Percival, Neil Campbell, Mowbray Ritchie.

***Pereira-Mendoza, Maurice,** B.Sc. (Lond.) to be awarded in 1943, A.R.C.S. British. 1, Holmwood Mansions, Uxbridge Road, Acton, W. 3. Chemist. *Signed by :* L. L. Katan, J. S. Bennett, Ronald H. Smith, M. Vahrman.

***Reid, Eric,** B.Sc.Hons. (Aberd.). British. Lister Institute, Chelsea Bridge Road, S.W. 1. Assistant Chemist (under Colonial Products Research Council). *Signed by :* J. Norman Davidson, J. E. Humphries, M. Bruce Watson.

‡Ritchie, Gilbert Benjamin, Pharmacist (M.P.S.). British. Auchenhabrig, Kilmacolm. Assistant Research Chemist, The Parozone Co., Ltd. *Signed by :* Henry G. A. Anderson, John A. Cranston, A. B. Crawford.

†Shaw, William, B.Sc. and Ph.D. (L'pool), A.I.C. British. 30, Low Leighton, New Mills, Nr. Stockport. Analytical and Research Chemist. *Signed by :* J. J. Fox, B. A. Ellis, R. Leslie Collett.

Smith, Cecil Harold. Registered as an external student for B.Sc., London University. Society of Apothecaries Certificate. British. Squadron Leader, R.A.F.V.R. (Bomber Command). *Signed by :* T. F. M. Smart, Charles W. S. Taylor, H. D. Kay.

***Webb, Michael George,** B.Sc.Hons. (Birm.). British. Gres-Leigh, Burton Old Road, Lichfield. Research Student, Birmingham University. *Signed by :* M. Stacey, F. Smith, Stanley Peat.

‡Wilkinson, Brian. Northern Universities Matriculation with exemption from London University. British. 47, Tom Lane, Crosland Moor, Huddersfield. Works Chemist engaged in the manufacture of and research on Xanthene Sofranine and Triphenylmethane colours and the intermediates from which these colours are formed, at Messrs. L. B. Holliday & Co., Ltd., for which firm I have worked during the past ten years. *Signed by :* H. H. Hodgson, C. K. Crosland, Harry S. Greenwood.

†Willetts, Arthur Kenneth, B.Sc.Hons. (Birm.). English. 49, High Haden Road, Old Hill. Research Chemist to a steel-combine. *Signed by :* M. Stacey, F. Smith, S. P. James.

†Wilson, David Woodburn, B.Sc.Hons. and M.Sc. (Q.U.B.), A.I.C. British. Experimental Officer, Research Department, Ministry of Supply. *Signed by :* Cecil L. Wilson, Fred Hudswell, R. Leslie Collett.

Wrzeszinski, Gunter Wilhelm, B.Sc. and Ph.D. (Lond.), A.R.C.S., D.I.C. German Refugee. 25b, Buckland Crescent, N.W. 3. Research Chemist at English Metal Powder Co. *Signed by :* H. V. A. Briscoe, A. A. Eldridge, H. J. T. Ellingham, H. J. Emeléus, Alexander King.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡Brooker, Stanley George, M.Sc.Hons. (N.Z.). British. c/o Messrs. Abels, Ltd., P.O. Box 12, Newmarket, Auckland, N.Z. Chief Chemist. *Signed by :* L. H. Briggs, F. P. Worley.

Piper, Harold Randolph Dyett, M.P.S. British. 12, Harris Street, San Fernando, Trinidad, B.W.I. Chief Chemist, Tropical Medicine Laboratories, Ltd., Manufacturing Chemists, Port of Spain, Trinidad. *Signed by :* C. E. Cornfield.

* Reduced annual subscription. † Three-body. ‡ Two-body.

PAPERS RECEIVED

List of papers received between June 18th and July 23rd, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Alkyl-oxygen fission in carboxylic esters. Part III. Esters of α-naphthylmethylcarbinol and phenylmethylcarbinol." By E. A. W. DOWNER, M. P. BALFE, and J. KENYON.

"A note on the temperature dependence of the dissociation constants of amino-acids." By J. F. J. DIPPY and H. O. JENKINS.

"The triterpene group. Part X. A continuation of Parts II and V." By J. C. E. SIMPSON and R. A. MORTON.

"The halogenation of phenolic ethers and anilides. Part XIV. *m*-Substituted phenyl ethers." By BRYNMOR JONES.

"Attempts to prepare optically active tervalent nitrogen compounds. Part II. 1 : 9-(2′ : 3′ : 4′ : 5′-tetrahydrophenylene)carbazole." By R. W. G. PRESTON and S. HORWOOD TUCKER.

"Rare-earth metal amalgams. Part IV. The isolation of europium." By J. K. MARSH.

"Condensation products of phenols and ketones. Part VI. The conversion of an *o*-quinone into derivatives of pyrogallol." By WILSON BAKER and J. C. MCGOWAN.

"The solid product of carbonisation." By G. MILNER, E. SPIVEY, and J. W. COBB.

"The preparation of *p*-aminobenzaldehyde, with observations on the mechanism of the reactions of sodium polysulphides with *p*-nitrotoluene." By H. G. BEARD and H. H. HODGSON.

"Analogues of pantothenic acid. Part III. Preparation of growth-inhibiting analogues related to pantoyl taurine." By MISS J. BARNETT.

"Thiazinocyanines. Part III. Carbocyanines containing the *peri*naphtha-1 : 3-thiazine nucleus." By F. M. HAMER and R. J. RATHBONE.

"The decomposition of diazotised 1 : 6-dinitro-2-naphthylamine by precipitated copper in solutions of various alcohols and organic solvents." By H. H. HODGSON and H. S. TURNER.

"The preparation of 6-nitro-1-naphthol with improved methods for the decomposition of diazonaphthols and some new reactions of nitronaphthols." By H. H. HODGSON and H. S. TURNER.

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMINC SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, October 21st, 1943, at 2.30 p.m.

Meeting for the reading of papers (further particulars will be announced).

Thursday, November 18th, 1943, at 2.30 p.m.

Lecture on " Wave Mechanics and Colour of Organic Compounds," by Mr. E. J. Bowen, M.A., F.R.S.

OUTSIDE LONDON.

EDINBURGH.

Tuesday, November 16th, 1943, at 7 p.m.

Lecture on " The Strength of Carbon Bonds," by Professor M. Polanyi, M.D., Ph.D. To be held in the Lecture Theatre of the University, Teviot Place.

GLASGOW.

Wednesday, November 10th, 1943, at 3.30 p.m.

Lecture on " Humour and Humanism in Chemistry," by Professor John Read, M.A., Sc.D., F.R.S. Joint Meeting with the Glasgow University Alchemists Club and the Andersonian Chemical Society. To be held in the Large Lecture Theatre of the Chemistry Department of the University.

Friday, December 3rd, 1943, at 7.15 p.m.

Lecture on " Some Aspects of the Formation of Ring Compounds," by Professor G. M. Bennett, M.A., Sc.D. To be held at the Royal Technical College.

LEEDS.

Tuesday, October 12th, 1943, at 6.30 p.m.

Lecture on " Autoxidation in Relation to Olefinic Structure," by Dr. E. H. Farmer, D.I.C., F.I.C. To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Wednesday, September 15th, 1943, at 6.30 p.m.

Talk on " Problems affecting the Unity of Chemists," by Dr. A. E. Dunstan, F.I.C. Joint Meeting with the Royal Institute of Chemistry, the Society of Chemical Industry, and the British Association of Chemists. To be held at Reece's Restaurant, Parker Street.

NORTH WALES.

Friday, November 12th, 1943, *at* 5.30 *p.m.*

Lecture on " The Strength of Carbon Bonds," by Professor M. Polanyi, M.D., Ph.D. Joint Meeting with the University College of Bangor Chemical Society. To be given in the Chemistry Lecture Theatre of the College.

SHEFFIELD.

Friday, September 10th, 1943, *at* 5.30 *p.m.*

Lecture on " Some Aspects of Molecular Rearrangement," by Dr. A. W. Chapman, A.R.C.S., F.I.C.

Friday, November 12th, 1943, *at* 5.30 *p.m.*

Lecture on " Surface Films," by Professor N. K. Adam, M.A., Sc.D., F.R.S.

Both lectures to be held in the Chemistry Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
James Henry Allan	1886	6th April, 1941
William Robert Bousfield	1905	16th July, 1943
Archibald Alexander Neil	1930	19th July, 1943
George Walker	1912	23rd April, 1943

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to the Royal Society for grants of £500 from the Rockefeller Foundation and £200 from the Parliamentary Grant in aid of Publications towards the cost of the Society's publications for 1943, and also to Messrs. Adam Hilger, Ltd., for presenting copies of the Society's publications.

FELLOWSHIP.

The following 35 candidates were elected Fellows of the Chemical Society on the 18th August, 1943:

Colin Bernard Amphlett.
Charles Rochford Averill.
Brian Patrick Baker.
John Kenneth Blacklock.
Edward John Bourne.
Stanley George Brooker.
Thomas Cyril Nicholas Carroll.
Kenneth Frederick Chackett.
Anthony Francis Childs.
Francis William Daniel.
Ian McPhail Dawson.
John Alfred Dean.
Alwyn Gwynne Evans.
Hugh Sommerville Forrest.
Horace Edward Garrett.
John Preedy Griffiths.
Reginald Harold Hall.
John Arthur Hetherington.
John Ronald Hinchley.
Joyce Muriel Judson.
Denis Ronald Lemin.
Edward Moor.
John Francis Osborne.
Norman Elliott Pate.
Maurice Pereira-Mendoza.
Harold Randolph Dyett Piper.
Eric Reid.
Gilbert Benjamin Ritchie.
William Shaw.
Cecil Harold Smith.
Michael George Webb.
Brian Wilkinson.
Arthur Kenneth Willetts.
David Woodburn Wilson.
Gunter Wilhelm Wrzeszinski.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, September 13th, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

†**Browne, Kenneth Samuel,** A.I.C. British. 13, Quantock Avenue, Bridgwater. Senior Analyst, British Cellophane, Ltd. *Signed by:* F. W. Pritchard, C. R. Oswin, W. H. Simmons.

†**Christopher, John Edward,** F.I.C. British. 110, Segars Lane, Ainsdale, Southport. Technical Consultant. *Signed by:* Thos. B. Smith, J. J. Fox, R. Leslie Collett.

***Cook, Edward Ernest,** B.A. (Oxon). British. 29, Beech Croft Road, Oxford. Research Chemist studying for B.Sc. *Signed by:* Ronald P. Bell, Wilson Baker, S. G. P. Plant.

***Davies, Leslie,** B.Sc.Hons. (Bristol). British. 4, School Road, Cymmer, Port Talbot. Plant Chemist. *Signed by:* John R. Moore, S. Hornsby, E. G. Cowley.

Dolan, John Edmund, B.Sc.Hons. (Glas.). British. 95, Lowther Street, Carlisle. Awaiting notification for O.C.T.U. training in R. Sigs. *Signed by:* J. W. Cook, R. Wright, C. Buchanan.

***Hills, Francis Desmond,** Inter.B.Sc. (Lond.). British. 98, Churchill Road, Upper Parkstone. Student at University College, Southampton. *Signed by:* S. H. Harper, Arthur M. James, Ishbel G. M. Campbell.

McNamara, Abraham Ninian, B.Sc. (Glas.), A.I.C., Ph.C., M.P.S. British. Broadlands, Westfield, Ossett. Works Manager to a firm of Manufacturing Chemists. *Signed by:* J. J. Fox, R. Leslie Collett, A. G. Francis.

†**Manson, Margaret Mimie,** B.Sc.Hons. (Aberd.), A.I.C. British. 379, Norton Road, Norton-on-Tees. Research Chemist with I.C.I. (Fertilizer and Synthetic Products), Ltd. *Signed by:* T. Harold Reade, R. B. Strathdee, A. Eric J. Vickers.

‡**Marshall, William Leslie,** Associate Member Institute of Industrial Administration. British. Springfields, Salwick, Nr. Preston. Industrial Chemist—Plant Manager. *Signed by:* W. H. Brindley, Denis E. Wheeler, Geoffrey Ogden.

***Mathieson, David Watson,** B.Sc.Hons (Glas.). British. c/o 4, Bellevue Road, Hornchurch. Research Chemist. *Signed by:* Julius N. Ashley, T. S. Stevens, James Bell.

Matthews, William Lofthouse. Several years study at The Sir John Cass Technical Institute. Member of The Society of Public Analysts since 1927. 1919 engaged by Daniel C. Griffith & Co. 1928 and onwards Head Chemist in various departments engaged in the analysis of non-ferrous metals, alloys, ores, etc., including analysis of silicate rocks and determination of rare elements such as tellurium, selenium, tungsten, vanadium, molybdenum. British. 17, Hillcrest View, Beckenham. Head Chemist. *Signed by:* Charles E. Barrs, H. E. Cox, Edgar A. Rayner.

‡**Mould, Leonard Pearce,** A.M.I.Chem.E. British. 27, Fontaine Road, S.W. 16. Technical Assistant, I.C.I. (Plastics). *Signed by:* J. W. Smith, A. Houston, William C. Slater, F. G. Crosse.

†**Musgrave, James,** B.Sc. (Dun.), A.I.C. British. 1, Windermere Avenue, Heworth Estate, Heworth, Gateshead, 10. Development Chemist. *Signed by :* J. J. Fox, B. A. Ellis, R. Leslie Collett.

‡**Randall, George.** English. 4, Packington Road, Hallow Road, Worcester. Managing Director, Severn Bank Tannery, Ltd. *Signed by :* R. S. Potter, F. P. Dunn, G. M. Bennett.

†**Rees, Ralph Llewellyn,** M.A. (Cantab.), F.I.C., A.M.I.Chem.E. British. Brendon, Orchehill Avenue, Gerrards Cross. Assistant Chief Chemist, London Power Co., Ltd. *Signed by :* G. White, J. M. Allan, R. Leslie Collett.

Silber, Helmot Martin, B.Sc.Hons. (Lond.). German. 5, Russelcroft Road, Welwyn Garden City. Research Chemist. *Signed by :* A. Cohen, Laurence M. Smith, R. G. Heyes.

***Smith, Neville.** British. 14, Kingsway, Ladybalk, Pontefract. University Student. *Signed by :* R. D. Haworth, Brynmor Jones, E. Gertrude Turner, J. C. Speakman.

***Tunnah, George William,** B.A. (Oxon.), A.I.C. British. 41, Woodcroft Avenue, Stanmore. Research Chemist. *Signed by :* Allan Domleo, B. Ellis, W. L. Norris.

Wilks, Kenneth Harry. Passed H.S.C. (London) in main subjects—Chemistry and Zoology. 5 years' experience in present position. Speak French, German, Swiss. British. 289, Sandon Road, Stafford. Research Chemist—Abrasive Wheel Manufactory. Hope to complete B.Sc. (London) at the end of the War. *Signed by :* C. S. Garland, L. O. Newton, W. M. T. Perkins.

* Reduced annual subscription. † Three-body. ‡ Two-body.

PAPERS RECEIVED.

List of papers received between July 23rd and August 20th, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Benz*cyclo*octatraenes. Part IV. 1 : 2 : 3 : 4 : 5 : 6-Tribenz-$\Delta^{1:3:5:7}$-*cyclo*octatraene." By R. G. SHUTTLEWORTH and (in part) W. S. RAPSON and E. T. STEWART.

"The free energy of methyl ether from the methanol–methyl ether equilibrium $2MeOH\ (V) = Me_2O + H_2O\ (V)$." By P. H. GIVEN.

"The determination of copper and arsenic in iron pyrites by the method of internal electrolysis." By W. C. DAVIES and C. KEY.

"Studies in the sterol group. Part XLV. Investigation of the homogeneity of sitosterol by oxidation with the Oppenauer reagent." By D. H. R. BARTON and E. R. H. JONES.

"Studies in the sterol group. Part XLVI. The isolation of a new form of Δ^4-cholestenone." By D. H. R. BARTON and E. R. H. JONES.

"Experiments on the synthesis of substances related to the sterols. Part XLI. Androstenedione. Part I." By R. H. MARTIN and SIR ROBERT ROBINSON.

"The complex formation and rearrangement of *p*-hydroxylaminobenzenesulphonamide." By H. BURTON and N. WALKER.

"Experiments on the synthesis of substances related to the sterols. Part XLII." By R. H. MARTIN and SIR ROBERT ROBINSON.

"The decomposition of the diazonium salts of 4-nitro-1-naphthylamine by sodium sulphite and sodium acetate: (*a*) separately, and (*b*) combined. Preparation of 4 : 4′-dinitro-1 : 1′-azonaphthalene." By H. H. HODGSON, D. E. NICHOLSON, and G. TURNER.

"Derivatives of 1 : 2 : 4 : 5-tetrachlorobenzene. Part III. The amination of 2 : 3 : 5 : 6-tetrachloronitrobenzene and -4-nitroaniline." By A. T. PETERS, F. M. ROWE, and D. M. STEAD.

"Reactions of benzthiazole derivatives. Part IV. 1-Thiocyanobenzthiazole." By W. H. DAVIES and W. A. SEXTON.

"Rubber, polyisoprenes, and allied compounds. Part V. The chemical linking of rubber and of other olefins with phenolformaldehyde resins." By J. I. CUNNEEN, E. H. FARMER, and H. P. KOCH.

"The properties of freshly formed surfaces. Part I. The application of the vibrating jet technique to surface tension measurements on mobile liquids." By C. C. ADDISON.

"The elimination of chlorine from sodium chloroacetate by the salts of weak acids." By (the late) H. M. DAWSON, E. R. PYCOCK, and G. F. SMITH.

"The Brönsted relation in the hydrolysis of the halogenoacetates and the theory of acids and bases." By G. F. SMITH.

"The course of autoxidation reactions in polyisoprenes and allied compounds. Part VII. Rearrangement of double bonds during autoxidation." By E. H. FARMER, H. P. KOCH, and D. A. SUTTON.

"β-Alkylation of certain kationoid systems by means of Grignard reagents." By A. J. BIRCH and SIR ROBERT ROBINSON.

"The cyclic methyleneamines. The use of hexamine in the production of aldehydes." By D. R. DAVIES and J. GRAYMORE.

"An interpretation of the Sandmeyer reaction. Part IV. Catalysed decomposition of diazonium kations by anionoid complexes with special reference to those of cobalt and ferric iron." By H. H. HODGSON, S. BIRTWELL, and J. WALKER.

"Some reactions of 3-nitro-1-naphthylamine, including anil-formation, bromination, and the preparation of 1 : 2 : 3 : 4-tetrabromonaphthalene." By H. H. HODGSON and D. E. HATHWAY.

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September, 1943

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS.

IN LONDON (Burlington House).

Thursday, October 21st, 1943, at 2.30 p.m.

Meeting for the reading of papers.

The following papers will be read and discussed:

"Experiments on the synthesis of purine nucleosides." By J. BADDILEY, G. W. KENNER, B. LYTHGOE, D. MCNEIL, A. R. TODD, and A. TOPHAM. (To be read by Professor A. R. TODD.)

"The Brönsted relation in the hydrolysis of the halogenoacetates and the theory of acids and bases. By G. F. SMITH. (To be read by the Author.)

"The course of autoxidation reactions in polyisoprenes and allied compounds. Part VII. Rearrangement of double bonds during autoxidation." By E. H. FARMER, H. P. KOCH, and D. A. SUTTON. (To be read by Dr. E. H. FARMER.)

Thursday, November 18th, 1943, at 2.30 p.m.

Lecture on "Wave Mechanics and Colour of Organic Compounds," by Mr. E. J. Bowen, M.A., F.R.S.

OUTSIDE LONDON.

EDINBURGH.

Tuesday, November 16th, 1943, at 7 p.m.

Lecture on "The Strength of Carbon Bonds," by Professor M. Polanyi, M.D., Ph.D. To be held in the Lecture Theatre of the University, Teviot Place.

GLASGOW.

Wednesday, November 10th, 1943, at 3.30 p.m.

Lecture on "Humour and Humanism in Chemistry," by Professor John Read, M.A., Sc.D., F.R.S. Joint Meeting with the Glasgow University Alchemists Club and the Andersonian Chemical Society. To be held in the Large Lecture Theatre of the Chemistry Department of the University.

Friday, December 3rd, 1943, at 7.15 p.m.

Lecture on "Some Aspects of the Formation of Ring Compounds," by Professor G. M. Bennett, M.A., Sc.D. To be held at the Royal Technical College.

LEEDS.

Tuesday, October 12th, 1943, at 6.30 p.m.

Lecture on "Autoxidation in Relation to Olefinic Structure," by Dr. E. H. Farmer, D.I.C., F.I.C. To be held in the Chemistry Lecture Theatre of the University.

NEWCASTLE AND DURHAM.

Wednesday, October 13th, 1943, at 5 p.m.

Jubilee Memorial Lecture of the Society of Chemical Industry on "The Contribution of Chemistry to Immunology," by Dr. C. R. Harington, M.A., F.R.S. To be held at King's College. Fellows are invited.

NORTH WALES.

Friday, November 12th, 1943, at 5.30 p.m.

Lecture on "The Strength of Carbon Bonds," by Professor M. Polanyi, M.D., Ph.D. Joint Meeting with the University College of Bangor Chemical Society. To be given in the Chemistry Lecture Theatre of the College.

SHEFFIELD.

Friday, November 12th, 1943, at 5.30 p.m.

Lecture on "Surface Films," by Professor N. K. Adam, M.A., Sc.D., F.R.S.

Both lectures to be held in the Chemistry Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Siegfried Ruhemann	1889	August 22nd, 1943.
Harold Charles Sayer	1898	August 16th, 1943.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to the Chemical Council for a contribution of £500 towards the maintenance of the Library for 1942 and 1943, and to Mr. H. Gledhill for a contribution of £3 to the funds of the Society.

REPRESENTATIVES.

Professor F. G. Soper, D.Sc., Ph.D., F.I.C., University of Otago, Dunedin, N.1, New Zealand, and Professor W. Pugh, B.Sc., Ph.D., F.I.C., Chemistry Department, University of Cape Town, Rondebosch, S. Africa, have accepted the invitation of the Council to serve as Representatives of the Society for New Zealand and South Africa, respectively. Fellows residing in these two countries are invited to communicate with Professor Soper and Professor Pugh for information regarding the activities of the Society.

FELLOWSHIP.

The following 19 candidates were elected Fellows of the Chemical Society on September 15th, 1943:

Kenneth Samuel Browne.
John Edward Christopher.
Edward Ernest Cook.
Leslie Davies.
John Edmund Dolan.
Francis Desmond Hills.
Abraham Ninian McNamara.
Margaret Mimie Manson.
William Leslie Marshall.
David Watson Mathieson.
William Lofthouse Matthews.
Leonard Pearce Mould.
James Musgrave.
George Randall.
Ralph Llewellyn Rees.
Helmot Martin Silber.
Neville Smith.
George William Tunnah.
Kenneth Harry Wilks.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, October 18th, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Balassa, George, B.A. (Oxon.), M.D. (Budapest). Hungarian. 103, Fern-Hill Road, Cowley, Oxford. Medical Practitioner. *Signed by:* F. M. Brewer, S. G. P. Plant, J. C. Smith.

Barker, Dorothy Gyseburn, took Natural Science at Girton College, Cambridge, prevented by illness from sitting for final exams. British. 250, Myton Road, Warwick. Assistant in Chemical Laboratory. *Signed by:* J. Rogers, Harold Harris, D. Bagley.

***Barr, William,** B.Sc. Hons. (Glas.), A.I.C. British. 122, Gallowhill Road, Paisley. Research Chemist. *Signed by:* J. W. Cook, James Bell, Walter Graham.

***Bentley, Robert Brian,** B.Sc. (Manc.). British. 26, Hooton Way, Hooton, Wirral. Chemist, Shell Refining and Marketing Co. *Signed by:* A. McGookin, William Doran, G. H. Beaven.

***Bentley, Ronald,** B.Sc. (Lond.), A.I.C. British. Organic Chemistry Department, Imperial College, S.W. 7. Research Worker. *Signed by:* J. Ratcliffe, E. R. H. Jones, A. H. Cook.

***Braithwaite, Eric Reeves,** B.Sc.Hons. (Manc.). British. 61, John Street, Moor Row, Cumberland. Works Chemist. *Signed by:* Lionel L. Hantman, Albert Taylor, P. Ward.

Burnley, Michael, Pharmacist and Research Chemist. British. 27, Thornton Place, Sunderland. Ethical Pharmaceutical Practice and Analysis. *Signed by :* S. Burnley, J. J. Laws, William Mair.

***Campbell, Herbert James,** London University Matriculation. British. 52*b*, Chamberlain House, Phoenix Road, N.W. 1. Laboratory Assistant, Wellcome Chemical Research Laboratories (London). *Signed by :* T. A. Henry, W. H. Gray, W. Solomon.

***Cobb, Leslie Hamilton,** Ph.D. (Lond.), A.R.C.S., D.I.C., A.I.C. British. 9, Parkway Close, Welwyn Garden City. Research Chemist, I.C.I. (Plastics), Ltd. *Signed by :* Laurence M. Smith, Paul Russell, J. W. C. Crawford.

Cole, William Arthur, Member of British Association of Chemists. British. 22, Beacon Road, Loughborough. Works and Research Chemist with Zenobia Ltd., Manufacturing Perfumers and Chemists. *Signed by :* F. V. Wells, S. J. Hopkins, E. Brown.

***Dunitz, Jack David.** British. 16 Dinard Drive, Giffnock. Student of Chemistry, University of Glasgow. *Signed by :* James Bell, J. W. Cook, John A. Mair.

‡**Gossling, Percy William Lingley,** B.Sc.Hons. (Lond.), M.Inst.Pet., Member of Insulating Oil Committee of Electrical Research Association. British. 30 Lynwood Grove, Orpington. Chief Chemist and Refinery Manager, W. B. Dick & Co., Ltd. *Signed by :* J. R. Partington, A. B. Crawford, I. Vance Hopper.

‡**Handisyde, Frederick Percy,** Inter.B.Sc., 14 years' experience of analytical work. British. 43, Briar Road, Kenton, Harrow. Analyst. *Signed by :* F. Bergel, A. Cohen, A. W. D. Avison.

Haworth, Fred, B.Sc.Hons. (L'pool). British. Mill House Farm, Brindle, Nr. Chorley. Demonstrator in Organic Chemistry in the University of Liverpool and Research Student. *Signed by :* William Doran, Francis W. Kay, A. McGookin.

‡**Holt, Stanley James,** B.Sc. (Lond.), 7 years experience in Industry and Research. British. 5, Ruskin Road, Belvedere. Research Chemist. *Signed by :* D. H. O. John, H. J. Barber, W. R. Wragg.

***Johnson,** Allard Harry. British. 26, High Street, Whetstone, Leicester. Full-time student of Chemistry at University College, Leicester. *Signed by :* L. Hunter, A. Hickling, N. Reynolds.

***Lloyd, John Gerard Stewart,** B.Sc.Hons. (L'pool). British. 19, Kings Road, Bebington. Chemist with "Shell" Refining and Marketing Co., Ltd. *Signed by :* A. McGookin, G. H. Beaven, T.P. Hilditch.

‡**Logan, John,** Senior Chemical Certificate, Royal Technical College, Glasgow. British. 66, Marshfield Road, Goole. Works Manager. *Signed by :* A. B. Gordon, R. T. Thomson, F. R. Storrie.

Luker, Leslie Gordon. English. 10, Boscombe Road, Merton Park, S.W. 19. Master Printer. *Signed by :* R. B. Drew, A. R. Cluer, K. Wallersteiner.

Mardon, James, Inter.B.Sc. (Lond.), Exhibitioner, Selwyn College, Cambridge. British. Ellesmere, Silverton, Soldier. *Signed by :* L. F. J. Parker, E. G. J. Willing, H. T. S. Britton.

†**Mieras, Adrian Pieter,** B.Sc. (Edin.), F.I.C., F.T.I. British. 32, Dreghorn Loan, Colinton, Edinburgh. Managing Director, Liddell's Laundry, Ltd. *Signed by :* E. G. V. Percival, T. R. Bolam, James Kendall, Neil Campbell.

***Moore, Clifford Graham,** N.U.J.R.B. Higher School Cert. British. Hatfield College, Durham University, Durham. 2nd Years Honours Chemistry Student. *Signed by :* C. W. Gibby, G. H. Christie, J. C. E. Simpson.

Shimmin, Edwin Leslie, B.Sc.Hons. (L'pool). British. Waverley, Ash Grove, Whitby. Science Master, also carrying out research on γ-pyrone nucleus. *Signed by :* Frederick Challenger, W. C. M. Lewis, T. P. Hilditch.

‡**Smith, Philip Arthur,** B.A. (Oxon.). British. Rookwood, Woodbrook Road, Alderley Edge. Divisional Manager, Imperial Chemical Industries, Ltd. *Signed by :* E. H. Rodd, P. Chorley, A. Shepherdson.

Tebrich, Walter, B.Sc. and Ph.D. (Edin.). German Refugee. 29, Squires Gate Lane, Blackpool. Research Chemist at Messrs. Koray, Ltd. *Signed by :* James Kendall, T. R. Bolam, W. O. Kermack.

***Thompson, Charles Norman,** B.Sc. Hons. (L'pool). British. 85, Temple Road, Prenton, Birkenhead. Chemist with a Petroleum Company. *Signed by :* A. McGookin, G. H. Beaven, T. P. Hildich.

‡**Wade, Arthur,** Co-ordinance of sound technical and scientific training, ability and experience. British. 25, Carlton Road, Burnley. Director, Secretary and Technical Chief of firm of Manufacturing Chemists. *Signed by :* H. J. C. Mathews, J. W. Baker, H. Burton.

***Webber, Edwin Alexander,** B.Sc. (Lond.). British. 81, High Street, Crediton. Student at University College, Exeter. *Signed by :* W. H. Lewis, S. J. Gregg, John Jacques, Ernest G. J. Willing.

†**Wild, George Lewis Edgar,** B.Sc. and Ph.D. (Lond.), A.I.C. British. Walden, 101, Uphill Road, Mill Hill, N.W..7. Temporarily unemployed owing to ill-health. Until recently Chemist with Messrs. Bakelite, Ltd. *Signed by :* E. G. K. Pritchett, John H. Bennitt, E. S. Fisher.

‡**Wylie, Colin Alfred,** Member of British Association of Chemists. British. 12, Silverbeech Road, Wallasey. Chemical Manufacturer. *Signed by :* C. S. Garland, E. C. C. Baly, P. Haas.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Baker, John Clark,** B.S. and Hon.D.Sc. (Upper Iowa University), M.Pd. (New Mexico Normal School), M.S. and Ph.D. (Columbia University). Supt. of Schools Emerado, N.D. 1905–1907, Laboratory Assistant U.I.U. 1909–1910, Professor of Science New Mexico Normal School, 1910–1913. Chemistry Assistant Columbia University 1913–1916, Associate Chemist N.Y. Agricultural Experiment Station, Geneva, 1916–1919. American. 11, Mill Street, Belleville, New Jersey. Research Chemist. *Signed by :* A. J. Amos, D. W. Kent-Jones.

Sondern, Clarence William, M.S. and Ph.D. (Wisconsin). American. Box 769, Kansas City. Director of Laboratories, George A. Breon & Co. *Signed by :* James A. Austin.

Swami, Purushottama Dasa, M.Sc. (Benares Hindu University). Research work in Analytical Chemistry on Phosphates, Oxalates and Fluorides. Indian. Chemistry Department, Dungar College, Bikaner, Rajputana. Assistant Professor of Chemistry, Dungar College. *Signed by :* S. S. Joshi.

* Reduced annual subscription. † Three-body. ‡ Two-body.

PAPERS RECEIVED.

List of papers received between August 20th and September 17th, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Attempts to find new antimalarials. Part XVIII." By D. C. QUIN and SIR ROBERT ROBINSON.
"Attempts to find new antimalarials. Part XIX." By W. L. GLEN and SIR ROBERT ROBINSON.
"Attempts to find new antimalarials. Part XX." By MISS J. CRUM and SIR ROBERT ROBINSON.
"Note on the direct introduction of angular alkyl groups." By A. J. BIRCH.
"Syntheses in the naphthalene series. Part I. 1 : 3-Dihydroxynaphthalenes." By G. SOLIMAN and R. W. WEST.
"Syntheses in the naphthalene series. Part II. 3-Hydroxy-2-alkyl-1 : 4-naphthaquinones." By G. SOLIMAN and (in part) A. LATIF.
"The synthetic application of *o*-β-bromoethylbenzyl bromide. Part II. The preparation and properties of 2-substituted 1 : 2 : 3 : 4-tetrahydro*iso*arsinolines." By F. G. HOLLIMAN and F. G. MANN.
"The synthetic application of *o*-β-bromoethylbenzyl bromide. Part III. The preparation and optical resolution of 2-phenyl-2-*p*-chlorophenacyl-1 : 2 : 3 : 4-tetrahydro*iso*arsinolinium bromide." By F. G. HOLLIMAN and F. G. MANN.
"Diencestrol." By G. I. HOBDAY and W. F. SHORT.
"The synthesis of amino-acids from substituted cyanoacetic esters." By P. E. GAGNON, R. GAUDRY, and F. E. KING.
"The replacement of the diazonium by the nitro-group. A general method based on the decomposition of the aryldiazonium cobaltinitrites." By H. H. HODGSON and E. MARSDEN.
"β-Cholesterol oxide." By R. A. BAXTER and F. S. SPRING.
"The effect of molecular environment on the absorption spectra of organic compounds in solution. Part III." By A. E. GILLAM and L. K. EVANS.
"The preparation of nitroethane." By H. MCCOMBIE, B. C. SAUNDERS, and F. WILD.
"Experiments on the synthesis of purine nucleosides. Part III. 4-Glycosidaminopyrimidines." By J. BADDILEY, B. LYTHGOE, and A. R. TODD.
"Experiments on the synthesis of purine nucleosides. Part IV. 4 : 6-Diaminopyrimidine. A new synthesis of pyrimidine derivates." By G. W. KENNER, B. LYTHGOE, A. R. TODD, and A. TOPHAM.
"Long-chain acids containing a quaternary carbon atom. Part II." By N. POLGAR and SIR ROBERT ROBINSON.
"The amylolytic degradation of starch." By W. N. HAWORTH, H. KITCHEN, and S. PEAT.
"Rare earths in scheelite." By J. K. MARSH.
"The constitution of yeast ribonucleic acid. Part VI. The nature of the carbohydrate radicals." By J. M. GULLAND and G. R. BARKER.

TECHNOLOGY DEPARTMENT

October, 1943

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMINC SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, November 18th, 1943, at 2.30 p.m.

Lecture on " Wave Mechanics and Colour of Organic Compounds," by Mr. E. J. Bowen, M.A., F.R.S.

OUTSIDE LONDON.

EDINBURGH.

Tuesday, November 16th, 1943, at 7 p.m.

Lecture on " The Strength of Carbon Bonds," by Professor M. Polanyi, M.D., Ph.D. To be held in the Lecture Theatre of the University, Teviot Place.

GLASGOW.

Wednesday, November 10th, 1943, at 3.30 p.m.

Lecture on " Humour and Humanism in Chemistry," by Professor John Read, M.A., Sc.D., F.R.S. Joint Meeting with the Glasgow University Alchemists Club and the Andersonian Chemical Society. To be held in the Large Lecture Theatre of the Chemistry Department of the University.

Friday, December 3rd, 1943, at 7.15 p.m.

Lecture on " Some Aspects of the Formation of Ring Compounds," by Professor G. M. Bennett, M.A., Sc.D. To be held at the Royal Technical College.

MANCHESTER.

Thursday, November 25th, 1943, at 5.30 p.m.

Lecture on " Modern Technique in Inorganic Chemistry," by Dr. H. J. Emeléus, A.R.C.S. To be held in the Chemistry Lecture Theatre of the University.

NEWCASTLE AND DURHAM.

Thursday, November 11th, 1943, at 6 p.m.

Lecture on " Plastics," by Mr. I. W. A. Kirkwood, M.I.E.E., M.A.I.E.E., and Dr. P. D. Ritchie, B.Sc., A.I.C. Joint meeting of the Royal Institute of Chemistry with the Chemical Society, Society of Chemical Industry, Oil and Colour Chemists' Association, Newcastle Chemical Industry Club, and British Association of Chemists. To be held in the Lecture Theatre, King Edward VII School of Art, King's College, Newcastle.

NORTH WALES.

Friday, November 12th, 1943, at 5.30 p.m.

Lecture on " The Strength of Carbon Bonds," by Professor M. Polanyi, M.D., Ph.D. Joint Meeting with the University College of Bangor Chemical Society. To be held in the Chemistry Lecture Theatre of the College.

NOTTINGHAM.

Thursday, December 2nd, 1943, at 4 p.m.

Lecture on " Some Properties and Reactions of Anhydrous Hydrofluoric Acid," by Dr. H. J. Emeléus, A.R.C.S. Joint meeting with the University College Physical and Chemical Society. To be held in the Chemistry Lecture Theatre, University College, University Park.

SHEFFIELD.

Friday, November 12th, 1943, at 5.30 p.m.

Lecture on " Surface Films," by Professor N. K. Adam, M.A., Sc.D., F.R.S. To be held in the Chemistry Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, October 21st, 1943, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Scientific Meeting on May 13th, which had been circulated, were taken as read and were confirmed and signed.

NEW JOINT MEMBERSHIP FACILITIES.

It was announced that new grades of Joint Junior and Joint Student Membership of the three Chartered Bodies would come into operation on January 1st, 1944, and that Fellows would receive further particulars.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: William T. Lockett, Charles E. Hollis, W. B. Brown, J. C. D. Brand, R. F. Naylor, K. Schwarzwald, K. S. Kirby, J. Baddiley, Cyril A. Brighton, P. A. Serin, Reg. F. Bowles, Eric Reid, H. S. Rooke, B. Lythgoe, Geoffrey Gee, G. A. Jeffrey, J. I. Cunneen.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

"Experiments on the synthesis of purine nucleosides." By J. BADDILEY, G. W. KENNER, B. LYTHGOE, D. MCNEIL, A. R. TODD, and A. TOPHAM.

"The Brönsted relation in the hydrolysis of the halogenoacetates and the theory of acids and bases." By G. F. SMITH.

"The course of autoxidation reactions in polyisoprenes and allied compounds. Part VII. Rearrangement of double bonds during autoxidation." By E. H. FARMER, H. P. KOCH, and D. A. SUTTON.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
William Herbert Hatfield	1927	October 17th, 1943.
Alfred Henrick Jackson	1883	November 14th, 1939.
Joseph Harger Pye	1920	May 23rd, 1943.
Arthur Avery Read	1889	September 24th, 1943.
Thomas Moore Ridley	1929	September 11th, 1942.
Francis Napier Sutton	1886	September 24th, 1943.
Percy Williams	1907	February 9th, 1942.
Killed in action.		
Ernest Adam Wagstaff	1930	October, 1942.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Dr. P. J. Garner, Mr. B. G. McLellan, and Dr. S. W. Smith for gifts of publications of the Society.

FELLOWS IN AUSTRALIA AND NEW ZEALAND.

Fellows in Australia and New Zealand are reminded that their annual subscriptions, either joint or separate, may be paid in the currencies of these two Dominions, and should be sent to the Commercial Bank of Australia, Ltd., 273, George Street, Sydney, N.S.W., Australia.

RESEARCH FUND.

Forms of application for grants from the Research Fund of the Society can be obtained from the General Secretary, The Chemical Society, Burlington House, Piccadilly, London, W.1. Applications from Fellows will receive prior consideration.

FELLOWSHIP.

The following 33 candidates were elected Fellows of the Chemical Society on October 21st, 1943:

George Balassa.
John Clark Baker.
Dorothy Gyseburn Barker.
William Barr.
Robert Brian Bentley.
Ronald Bentley.
Eric Reeves Braithwaite.
Michael Burnley.
Herbert James Campbell.
Leslie Hamilton Cobb.
William Arthur Cole.
Jack David Dunitz.
Percy William Lingley Gossling.
Frederick Percy Handisyde.
Fred Haworth.
Stanley James Holt.
Allard Harry Johnson.
John Gerard Stewart Lloyd.
John Logan.
Leslie Gordon Luker.
James Mardon.
Adrian Pieter Mieras.
Clifford Graham Moore.
Edwin Leslie Shimmin.
Philip Arthur Smith.
Clarence William Sondern.
Purushottama Dasa Swami.
Walter Tebrich.
Charles Norman Thompson.
Arthur Wade.
Edwin Alexander Webber.
George Lewis Edgar Wild.
Colin Alfred Wylie.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, November 15th,* 1943. *Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Bellringer, Frederick James,** B.Sc.Hons. (Lond.). English. 22, Abbott Avenue, Wimbledon, S.W. 20. Works Chemist. *Signed by :* Kenneth J. Verrill, F. G. Sayer, E. de Barry Barnett.

***Bevington, John Cuthbert,** B.A.Hons. (Cantab.), Foundation Scholar of Queen's College, Cambridge. British. 67, Stockbridge Road, Winchester. Research Worker. *Signed by :* F. S. Dainton, R. R. Smith, Hugh Campbell.

‡**Bishop, Arthur Albert.** 3 years Laboratory Assistant with Bostock, Hill and Rigby, Public Analysts; 5 years Assistant Works Chemist, and 1 year Assistant Research Chemist, Bell's Asbestos Co., Ltd.; 3 years Works Chemist and Assistant Works Manager, Raybestos Co., Ltd.; 3 years Chemist and Assistant Manager, B.L. Section, Turner Bros. Asbestos Co., Ltd.; 8 years Chief Chemist and Works Manager, Morgan, Crossley & Co., Ltd. British. 24, Buckingham Road, Cheadle Hulme. Works Manager and Chief Chemist. *Signed by :* R. Fraser Thomson, S. Ellingworth, A. W. Baldwin.

***Bryant, Kenneth Conrad,** B.A. (Oxon). British. 74, Kings Drive, Bishopston, Bristol, 7. Research Chemist, Trinidad Leaseholds, Ltd. *Signed by :* Richard Barrow, C. N. Hinshelwood, T. K. Hanson.

***Docherty, Archibald Cameron,** B.Sc.Hons. (Edin.). British. 31, Queens Avenue, Edinburgh, 4. Research at Chemistry Department, University of Edinburgh. *Signed by :* E. G. V. Percival, A. Scott Dodd, Mowbray Ritchie.

***Dorkin, Catherine Margaret Cameron,** B.Sc. (Leeds). British. 5, Dewsbury Terrace, Priory Street, York. Technical Assistant in Factory. *Signed by :* Frederick Challenger, W. A. Wightman, J. W. Baker.

†**Gibbons, Percy Albert,** B.Sc.Hons. and M.Sc. (Lond.), Teacher's Diploma; Member of the Royal Society of Teachers; Associate of the Institute of the Rubber Industry. British. 96, Ealing Village, Hangers Lane, W. 5. Manager of the Phoenix Rubber Co., Ltd. *Signed by :* T. J. Drakeley, R. W. West, H. J. S. King.

‡**Grantham, Roy,** B.Sc. (Melb.). British. Thurloo, Irving Road, Tvorak, S.E. 2, Melbourne. Doing M.Sc. degree at Melbourne University—Research in Organic Chemistry. *Signed by :* E. J. Hartung, J. S. Anderson, K. H. Pausacker.

†**Hatfull, Ronald Stanley,** A.I.C. British. 37, Highfield Road, Sutton. Research Chemist, Shell Refining and Marketing Co., Ltd. *Signed by :* J. Kenyon, A. Houston, J. W. Smith.

***Hearson, Anthony,** B.Sc.Hons. (Dun.). British. 86, First Avenue, Kidsgrove, Stoke-on-Trent. Shift Chemist. *Signed by :* C. W. Gibby, G. H. Christie, J. C. E. Simpson.

‡**Holden, Henry Patrick.** British. Trencrom, Wenallt Road, Rhiwbina, Nr. Cardiff. Chemist with Copigraph, Ltd. *Signed by :* G. H. Macadam, A. S. Minton, H. John Williams.

Howarth, John, Inter B.Sc. (Lond.), Registered for B.Sc. Special Chemistry, June, 1944. British. 154, Bilton Road, Perivale, Greenford. Assistant Works Chemist. *Signed by :* C. H. Hands, W. H. J. Vernon, F. Wormwell.

***Hutchinson, Samuel Keith,** B.Sc. (Lond.). British. 62, Stanton Road, Ilkeston. Research Student, University College, Nottingham. *Signed by :* E. B. R. Prideaux, D. O. Jordan, G. R. Barker, John C. Roberts.

***Kennedy, Gordon Telford,** B.A. (Oxon). British. 54, Abbots Road, Abbots Langley, Watford. Research Chemist, Trinidad Leaseholds, Limited. *Signed by :* Richard Barrow, C. N. Hinshelwood, T. K. Hanson.

‡**Lowe, Cecil William,** B.Sc.Hons. (Wales). British. Croft House, Ashburnham Road, Pembrey. Shift Chemist. *Signed by :* J. E. Coates, T. Campbell James, D. Gwynne Davies.

***Mackenzie, Robert Cameron,** B.Sc.Hons. (Edin.). British. 76, Marchmont Crescent, Edinburgh. Chemical Research at the University of Edinburgh. *Signed by :* E. G. V. Percival, Ernest B. Ludlam, Mowbray Ritchie.

†**Phillips, Lewis Henry,** B.Sc. (Lond.), A.R.C.S., A.I.C., D.I.C. British. L. M. Van Moppes & Sons, Diatipt Works, North Circular Road, N.W. 2. Chemist. *Signed by :* H. J. T. Ellingham, M. A. Whiteley, R. Leslie Collett.

‡**Polunin, Nicholas,** M.S. (Yale), M.A., D.Phil., D.Sc. (Oxon), Editor. "International Industry." British. Shack, Shotover Hill, Oxford. Fielding Curator and Keeper of the University Herbaria; University Demonstrator and Lecturer, Department of Botany, Oxford; Lecturer of New College, Oxford; Foreign Research Associate, Harvard University. *Signed by :* N. V. Sidgwick, D. Ll. Hammick, J. C. Smith.

***Popper, Peter Theodor,** Inter B.Sc. Czechoslovak. 31, Tregunter Road, S.W. 10. Third year Chemistry Student for B.Sc. at Imperial College, London. *Signed by :* H. J. Emeléus, H. J. T. Ellingham, L. S. Theobald.

Pratt, Herbert William, M.P.S., Associate of Royal Photographic Society. British. 37, Hildaville Drive, Westcliff-on-Sea. Pharmacist. *Signed by :* P. F. R. Venables, J. D. Kendall, Victor Gallafent.

***Rhys, Ceredig Phillips,** B.Sc.Hons. (Wales). British. 24, Mornington Avenue, W. 14. Chemist to Messrs. Shell Refining and Marketing Co. *Signed by :* W. Davey, W. David, T. Martin A. Tudhope.

***Riley, John Price,** B.Sc.Hons. (L'pool). British. 30, Lulworth Road, Birkdale. Research Chemist. *Signed by :* A. McGookin, T. P. Hilditch, D. M. Edwards.

***Robinson, Margaret Shirley,** B.Sc. (Leeds). British. Burnside, Butterbowl, Farnley, Leeds. Research Assistant, Wool Industries Research Association, Leeds. *Signed by :* Stanley Blackburn, Leonard F. Story, Henry Phillips.

Small, Percy Arthur, B.A., D.Phil. (Oxon). British. Sedanka, Parkway Close, Welwyn Garden City. Research Chemist, Plastics Industry. *Signed by :* Laurence M. Smith, R. G. Heyes, P. Russell.

Stephenson, Emily Fay Morrison, M.Sc. (Melb.). British. Chemistry Department, University of Melbourne, N. 3, Melbourne. Demonstrator. *Signed by :* W. Davies, J. S. Anderson, H. H. Hatt.

***Tarnowski, Hans-Hermann Alfred Eberhard,** B.Sc. subsidiary examination in Physiology, London University, Intermediate examination in Science. German. 6, Albert Terrace, Edinburgh. Third year honours degree student of Chemistry (private study) and medical student at the School of Medicine of the Royal College of Edinburgh. *Signed by :* A. Hickling, L. Hunter, I. I. Carasso.

‡**Tattersall, Cecil Owen,** O.B.E., B.Sc.Hons. (Lond.), A.R.C.S., F.I.C. British. Master General of the Ordnance Branch, General Headquarters, India, Shahjahan Road, New Delhi. Scientific Adviser to the M.G.O. in India. *Signed by :* H. J. T. Ellingham, J. N. Sugden, A. A. Eldridge.

‡**Thomson, Alexander William,** Associate of Sydney Technical College (Organic Chemistry). British. c/o Messrs. Reckitt & Colman (Australia), Ltd., 145, Bourke Street, Redfern, N.S.W. Deputy Factory Manager. *Signed by :* J. C. Earl, Adrien Albert, Thomas Iredale.

Walsh, Arthur Donald, M.A., Ph.D. (Cantab.). British. Physical Chemistry Laboratory, Free School Lane, Cambridge. Research Chemist. *Signed by :* Fredk. S. Dainton, R. G. W. Norrish, J. R. Partington.

Weigert, Ulrich, B.Sc.Hons. (Manc.), D.I.C. (Chemical Engineering). German. 24, Tudor Road, New Barnet. Works Chemist. *Signed by :* Colin Campbell, J. B. M. Herbert, M. Polanyi.

***Winter, Paul.** Third year Diploma, Academy of Commerce in Vienna (Honours in Chemistry and Chemical Technology and in Technology of Commercial Commodities); private study of drugs, dietetics, food-chemistry, food-manufacture and accounting. Four years drug and chemistry trade (London). Austrian. 32, Bramham Gardens, S.W. 5. Food-manufacturer. *Signed by :* D. C. Garratt, I. Goldrei, H. C. Macfarlane.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

†**Neppe, Solly Louis,** B.Sc.Eng. (Witwatersrand), A.I.C., A.M.Inst.Pet. South African. C/o Satmar, P.O. Box 83, Boksburg North, Transvaal. Chief Chemist, S.A. Torbanite Mining and Refining Co., Ltd. *Signed by :* L. Golberg.

* Reduced annual subscription. † Three-body. ‡ Two-body.

PAPERS RECEIVED

List of papers received between September 17th and October 21st, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Physical properties and chemical constitution. Part VIII. Alkyl chlorides, bromides, and iodides." By A. I. Vogel.

"A method for the continuous measurement of the local concentration of atmospheric ozone." By E. Gluckauf, H. G. Heal, G. R. Martin, and F. A. Paneth.

"Photo-chemical reactions. Part VII. Photo-chemical reactions in sunlight involving: (*a*) Rupture of ethane linkage. (*b*) Dehydrogenation effected by quinone and benzophenone derivatives. (*c*) Addition reactions between ketones and methanes." By A. Schönberg and A. Mustafa.

"Some properties of urea, biuret, and triuret." By R. C. Haworth and F. G. Mann.

"Note on the co-ordination number of bivalent lead." By R. C. Haworth and F. G. Mann.

"The application of the conditions of the Tiemann–Reimer reaction to benzaldehyde." By W. S. Rapson, D. H. Saunder, and E. T. Stewart.

"The preparation and properties of certain poly-sulphanilamide compounds." By F. G. Mann and J. Watson.

"Organic derivatives of silicon. Part LI and last. Bi-dihydroxytetraphenylethane orthosilicate." By F. S. Kipping and J. T. Abrams.

"Iron derivatives of heterocyclic acids. Part I. Ferric complexes of chelidamic acid." By J. H. Gorvin.

"The mono-reduction of 1 : 3-dinitronaphthalene and the separation of 3-nitro-1-naphthylamine and 4-nitro-2-naphthylamine." By H. H. Hodgson and S. Birtwell.

"Analogues of pantothenic acid. Part IV. Aryl derivatives of pantoyl taurine." By J. Barnett, D. J. Dupré, B. J. Holloway, and F. A. Robinson.

"The action of phosphorus pentasulphide on barbituric acids." By H. C. Carrington.

"Transport numbers of nitric acid in water at 25° from E.M.F. measurements." By H. I. Stonehill.

CHNOLOGY DEPT.

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JAN 8 1944
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November, 1943

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, January 20th, 1944, at 2.30 p.m.

Tilden Lecture on "The Scope and Limitations of Infra-red Measurements in Chemistry," by Dr. H. W. Thompson, M.A.

OUTSIDE LONDON.

GLASGOW.

Friday, December 3rd, 1943, at 7.15 p.m.

Lecture on "Some Aspects of the Formation of Ring Compounds," by Professor G. M. Bennett, M.A., Sc.D. To be held at the Royal Technical College.

LIVERPOOL.

Thursday, January 13th, 1944, at 4 p.m.

Lecture on "The 'Reactivity' of Organic Compounds," by Professor E. D. Hughes, D.Sc., Ph.D., F.I.C. Joint Meeting with the Royal Institute of Chemistry, Society of Chemical Industry and British Association of Chemists. To be held in the Muspratt Lecture Theatre of the University.

NORTH WALES.

Friday, January 28th, 1944, at 5.30 p.m.

Lecture on "The Strength of Carbon Bonds," by Professor M. Polanyi, M.D., Ph.D. Joint meeting with the University College of Bangor Chemical Society. To be given in the Chemistry Lecture Theatre of the College.

NOTTINGHAM.

Thursday, December 2nd, 1943, at 4 p.m.

Lecture on "Some Properties and Reactions of Anhydrous Hydrofluoric Acid," by Dr. H. J. Emeléus, A.R.C.S. Joint meeting with the University College Physical and Chemical Society. To be held in the Chemistry Lecture Theatre, University College, University Park.

SOUTH WALES.

Friday, January 21st, 1944, at 6 p.m.

At Cardiff.

Lecture on "Chemical Reactivity," by Professor E. D. Hughes, D.Sc., Ph.D. Joint meeting with the Cardiff Technical College Chemical Society. To be held at the Technical College.

Saturday, January 22nd, 1944, at 3 p.m.

At Swansea.

Lecture on "Chemical Reactivity," by Professor E. D. Hughes, D.Sc., Ph.D. Joint meeting with the University College Students' Chemical Society. To be held in the Chemistry Department of University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, November 18th, 1943, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Scientific Meeting of October 21st, which had been circulated, were taken as read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: Herbert J. Campbell, Arthur Wade, Philip S. S. F. Marsden, C. Norman Thompson, J. Gerard S. Lloyd, Leslie G. Luker, Ronald S. Hatfull.

LECTURE.

After a brief introduction, the PRESIDENT called on Mr. E. J. Bowen, M.A., F.R.S., to deliver his Lecture entitled "Wave Mechanics and Colour of Organic Compounds."

At the conclusion of the Lecture, a vote of thanks to the Lecturer, proposed by Professor T. S. Moore, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Percy Appleyard	1903	October 10th, 1943.
Robert MacFarlane Clark	1919	August 23rd, 1943.
William Douglas	1888	October 29th, 1943.
John Aitken Macnair	1941	October 7th, 1943.
Gerald Tattersall Moody	1887	October 23rd, 1943.
Frank Southerden	1897	November 13th, 1943.

CONGRATULATIONS.

The congratulations of the Council have been conveyed to Professor I. M. Heilbron on his being awarded the Davy Medal of the Royal Society.

The Council have sent greetings to Professor Niels Bohr, Honorary Fellow, on his recent escape from Denmark to this Country.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to the Rev. G. C. Chambres for a contribution to the funds of the Society and to Mr. D. E. Coome for presenting sets of the publications of the Society.

REPRESENTATIVE FOR INDIA.

Sir Shanti S. Bhatnagar, O.B.E., D.Sc., F.R.S. (The University, Lahore, Punjab, India) has accepted the invitation of the Council to act as Representative of the Society for India. Fellows residing in India are invited to communicate with Sir Shanti Bhatnagar for information regarding the activities of the Society.

RESEARCH GRANTS.

The Council have made the following grants from the Research Fund:

	£	s.	d.
Influence of solvents on the kinetics of ester hydrolysis. (S. V. Anantakrishnan	10	0	0
Study of the formation and decomposition of onium compounds. (S. V. Anantakrishnan) ...	10	0	0
Experiments on the resolution of 10-*p*-carboxyphenyl-2-methylphenoxstibine. (Miss I. G. M. Campbell)	10	0	0
The structure of colchicine and the synthesis of analogues. (J. W. Cook)	20	0	0
Synthesis of pyrethrum. (S. H. Harper)	25	0	0
The polarography of quinoline derivatives. (J. T. Stock)	5	0	0

LIBRARY.

The Library will be closed on Christmas Day, and on Monday, December 27th.

NEW JOINT MEMBERSHIP FACILITIES.

Note.—C.S. = Chemical Society. R.I.C. = Royal Institute of Chemistry. S.C.I. = Society of Chemical Industry.

For some years past Fellows of the Society have had the privilege, until they reach the age of 25, of paying a reduced Annual Subscription of £1 10*s*. and of receiving the *Annual Reports* and either the *Journal* or two Sections of *Abstracts A*. This privilege continues to remain in force, and it will be seen from the notice recently sent out by the Conjoint Chemical Office that this junior Fellowship has been extended to include Joint Junior and Joint Student Fellows from 1st January, 1944.

Joint Junior Fellowship is open to Fellows, who have not reached the age of 25 on the 1st January of a given year. The joint Annual Subscription to the C.S., the R.I.C., and the S.C.I. payable by a Fellow who is an Associate of the R.I.C. is £3 5*s*. and by a Fellow who is a Student of the R.I.C., £2 5*s*. The Joint Annual Subscription to the C.S. and the S.C.I. is £1 15*s*. Fellows in any of the above three categories receive free of charge publications up to 35 units of schedule price, and may purchase a further 25 units of publications of schedule price.

Joint Student Fellowship is open to Fellows who have not reached the age of 22 on 1st January of a given year. The joint Annual Subscription to the C.S., the R.I.C., and the S.C.I. is £1 and to the C.S. and S.C.I., 10*s*. Fellows in either category receive free of charge the *Annual Reports* (*Pure*) and the *Annual Reports* (*Applied*), and may purchase Reprints of the Chemical Society Lectures at the schedule price.

In order that the scheme may be put into operation, certain alterations in Bye-Law 8 are necessary. The Council are glad to state that the Lord President of His Majesty's Privy Council, in exercise of the powers conferred on him by the Chartered and Other Bodies (Temporary Provisions Act), 1939, has directed that for the period during which this Act remains in force Bye-Law 8 (c) which states that the Council shall have power:

> "To reduce (by not more than one-half) the annual subscription payable by any Fellow who at the date when such annual subscription becomes payable, is under 25 years of age, and who is willing to forego the receipt of certain of the publications of the Society issued to Fellows as hereinafter provided,"

shall be amended by the deletion of the words "(by not more than one-half)." The scheme will thus come into operation without delay.

FELLOWSHIP.

The following 32 candidates were elected Fellows on November 18th:

Frederick James Bellringer.
John Cuthbert Bevington.
Arthur Albert Bishop.
Kenneth Conrad Bryant.
Archibald Cameron Docherty.
Catherine Margaret Cameron Dorkin.
Percy Albert Gibbons.
Roy Grantham.
Ronald Stanley Hatfull.
Anthony Hearson.
Henry Patrick Holden.
John Howarth.
Samuel Keith Hutchinson.
Gordon Telford Kennedy.
Cecil William Lowe.
Robert Cameron Mackenzie.
Solly Louis Neppe.
Lewis Henry Phillips.
Nicholas Polunin.
Peter Theodor Popper.
Herbert William Pratt.
Ceredig Phillips Rhys.
John Price Riley.
Margaret Shirley Robinson.
Percy Arthur Small.
Emily Fay Morrison Stephenson.
Hans-Hermann Alfred Eberhard Tarnowski.
Cecil Owen Tattersall.
Alexander William Thomson.
Arthur Donald Walsh.
Ulrich Weigert.
Paul Winter.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, December 13th, 1943. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

***Anderson, Ian Glyn,** B.Sc.Hons. (Lond.). British. 39, Demesne Road, Wallington. Research Chemist. *Signed by:* J. Kenyon, C. W. Davies, J. W. Smith.

Barton, Norman, B.Sc.Hons. (Lond.). British. 115, Crow Hill South, Alkrington. Assistant Chemist, Research Department I.C.I. *Signed by:* M. A. T. Rogers, F. H. S. Curd, C. G. Raison.

†**Baxandall, Gordon Alfred,** A.I.C. British. 21, Sunnycroft Road, Leicester. *Signed by:* L. Hunter, A. Hickling, A. H. Johnson.

‡**Bithell, Raymond John,** School Certificate. British. 14, Chetwynd Road, Ward End, Birmingham, 8. Analytical Chemist in works control laboratory. *Signed by:* J. W. Hewitt, E. G. K. Pritchett, J. Cooper Duff.

†**Bridge, Allan Clare,** B.Sc.Hons. (Liverpool), A.I.C. British. 19, Braunton Road, Aigburth, Liverpool, 17. Research Chemist. *Signed by:* John Southwood, G. J. Pritchard, Eric J. Holland.

***Broughton, Peter Maxwell Grayson,** Intermediate Science and Subsidiary Physics. British. Barnhayes, Stoke Canon, Exeter. Student in Honours Chemistry at University College of South-West, Exeter. *Signed by:* H. T. S. Britton, R. King, S. J. Gregg.

†**Campbell, Peter Nelson,** B.Sc. (Lond.), A.I.C. British. Westfield, Holbrook Lane, Chislehurst. Process Chemist at Standard Telephones and Cables, Ltd. *Signed by:* C. K. Ingold, J. N. E. Day, Henry Terrey.

***Corney, Norman Stanley,** Inter.B.Sc. British. Connaught Hall, Wessex Lane, Southampton. Student in Chemistry, University College, Southampton. *Signed by:* Ishbel G. M. Campbell, S. H. Harper, K. R. Webb.

***Davies, Robert Ernest,** B.Sc.Hons., M.Sc. (Manc.). British. 1, Endcliffe Crescent, Sheffield, 10. Temporary Assistant Lecturer in Chemistry at Sheffield University. *Signed by:* Brynmor Jones, R. D. Haworth, J. C. Speakman.

***Dewar, Eric Thomas,** B.Sc. (Edin.). British. 2, Eskbank Terrace, Eskbank, Dalkeith. *Signed by:* E. G. V. Percival, Neil Campbell, Christina C. Miller.

Elliott, Michael, Inter.B.Sc. (Lond.). British. Connaught Hall, Wessex Lane, Swaythling, Southampton. Chemistry Student, University College, Southampton. *Signed by:* S. H. Harper, K. R. Webb, N. K. Adam, Ishbel G. M. Campbell, G. W. Groves.

†**Elwell, William Thomas,** F.I.C. British. Rushyford, Ripley Road, Norton, Stockton-on-Tees. Analytical Chemist. *Signed by:* James W. Dutton, Maddison Phillipson, Charles W. Scaife, F. R. Williams.

Ewens, Ronald Victor George, B.A., D.Phil. (Oxon). British. Chemistry Department, Guy's Hospital Medical School, Sherwood Park, Tunbridge Wells. Demonstrator. *Signed by:* Charles S. Gibson, F. H. Brain, G. Haslewood.

†**Farrand, Eric Austin,** B.Sc. (Lond.), A.I.C. British. 2, Grove Mansions, Hammersmith Grove, W. 6. Analytical and Research Chemist. *Signed by:* Nathan Goldenberg, Charles H. F. Fuller, E. B. Hughes.

***Gate, Peter Atholl Jackson,** Inter.B.Sc. (Lond.). British. Hillcrest, Wycombe End, Beaconsfield. Student of Chemistry at University College of the South West, Exeter. *Signed by:* H. T. S. Britton, S. J. Gregg, R. King.

***Gill, Ronald,** B.Sc.Hons. (Lond.). British. 3, Lambourne Avenue, Eccleshill, Bradford. Research Chemist. *Signed by:* Derrick Rowley, R. M. Barrer, H. I. Stonehill.

†**Green, Eric Harold,** B.Sc. (Lond.)., A.I.C. British. 38, West Drayton Road, Hillingdon Heath. Research chemist, D.S.I.R. *Signed by:* F. S. Archer, E. J. Dickinson, L. Maddison.

***Greenaway, Ernest Walter,** Higher School Cert., B.Sc. (Subsidiary). British. 12, Elmore, Gloucester. Student of Chemistry at University College of the South-West, Exeter. *Signed by:* H. T. S. Britton, R. King, S. J. Gregg.

(d)**Hargreaves, Gerald Henry,** A.R.C.S. British. Royal College of Science, South Kensington, S.W. 7. Research Student. *Signed by:* E. R. H. Jones, L. N. Owen, A. H. Cook.

†**Humphreys, James Leslie,** B.Sc. (Lond.), A.I.C. British. 139, Worton Road, Isleworth. Technical Chemist. *Signed by:* E. Lester Smith, A. L. Bacharach, W. E. James.

‡**Jackson, Edward William,** A.M.C.T. British. Station House, Whalley, Nr. Blackburn. Chief Chemist and Bacteriologist to Messrs. R. W. Holden, Ltd. *Signed by:* John K. Wood, O. Rhys Howell, G. Baddeley.

†**Jones, Arthur George,** B.Sc. (Lond.), A.I.C. British. 8, The Close, Eccleston, St. Helens. Research Chemist, I.C.I. (General Chemicals), Ltd. *Signed by:* L. A. Haddock, L. J. Burrage, O. D. Mooney.

†**Jones, John Mather,** A.I.C. English. 2, Hazelwood Road, Bush Hill Park, Enfield, 14. Chemist to Messrs. Marshalls Food Products, Ltd. *Signed by:* George Taylor, H. E. Cox, J. Hubert Hamence.

Leeds, William George, B.A. (Oxon). British. 29, Connaught Road, Hornchurch. Research Chemist. *Signed by:* Julius N. Ashley, R. Ghosh, J. A. Barltrop.

***Leslie, Ian,** B.Sc. (Aberd.). British. c/o Robinson, Shaggs, East Lulworth, Wareham. Research Chemist. *Signed by:* T. H. Reade, M. Bruce Watson, J. E. Humphries.

***McKail, John Ewing,** B.Sc.Hons. (Edin.). British. 14, Thirlestane Road, Edinburgh, 9. Assistant, Chemistry Department, University of Edinburgh. *Signed by:* E. G. V. Percival, Neil Campbell, James Kendall.

MacLean, Colin George. Diploma of Paisley Technical College (5 year course) in Inorganic Chemistry, Organic Chemistry, General Chemistry, Bleaching and Dyeing. British. 146, Rowan Street, Paisley. Chief Chemist, William Fulton & Sons, Ltd. *Signed by:* F. C. Wood, A. J. Hall, R. P. Foulds.

McNab, John, B.Sc. (Lond.). British. 47, Blockley Road, Wembley. Technical Officer, H.M.S. *Ferret*. *Signed by:* Fredk. S. Dainton, J. R. Partington, H. D. K. Drew.

Mallet, Noel Percy, B.Sc.Hons. (Lond.). English. 33, Wolseley Road, Crouch End, N. 8. Research Chemist at Vandervell Products, Ltd. *Signed by:* C. K. Ingold, J. N. E. Day, Henry Terrey.

†**Mattana, Solomon,** B.Sc., Ph.D. (Lond.), A.I.C., A.C.G.F.C. British. 17, Allingham Court, Haverstock Hill, N.W. 3. Chemist (Pest Control) and Company Director. *Signed by:* David M. Freeland, Hubert H. Chambers, R. Leslie Collett.

***de Mayo, Paul José,** Inter. Science and Subsib. Maths. British. Clarendon House, Strand, Dawlish. Student (Univ. Coll. of the S. West) in Chemistry (Honours). *Signed by:* H. T. S. Britton, S. J. Gregg, R. King.

*Milsom, **Philip Edward.** British. Queen's College, Oxford. Student of Chemistry, Oxford University. *Signed by :* W. Baker, E. Hope, R. M. Lodge.

Moore, Cedric Duncan. British. 31, Harcourt Road, Blackpool. Chief Chemist, Messrs. Koray, Ltd. *Signed by :* H. H. Hodgson, D. E. Hathway, R. Robinson.

†**Moss, Arnold Alec Henry,** B.Sc. (Leeds), A.I.C., Diploma in Chemical Engineering (Univ. Coll., London). British. 1, French Barn Lane, Blackley, Manchester, 9. Works Chemist. *Signed by :* William Muir, J. Bruce, John P. Hatton.

*O'Sullivan, **Desmond Gerard,** B.Sc.Hons. (Lond.). Research Student (Part-time) for Ph.D. (London) Degree. British. 18, Virginia Gardens, Barkingside, Ilford. Research Chemist in Works. *Signed by :* Ernest A. Rudge, F. L. Allen, K. G. A. Hammer.

(b)**Payne, Douglas Sutherland.** British. 23, Whitehill Road, Gravesend. Student of Chemistry, Imperial College of Science and Technology. *Signed by :* H. J. Emeléus, L. S. Theobald, H. J. T. Ellingham.

†**Phillips, John Leslie,** B.Sc.Hons. (L'pool), A.I.C. British. Sellafield Staff Club, Seascale. Plant Control Chemist. *Signed by :* A. McGookin, William Doran, Francis W. Kay.

Polgar, Nicholas, D.Phil. (Vienna). Austrian. Dyson Perrins Laboratory, South Parks Road, Oxford. Research Chemist. *Signed by :* Robert Robinson, D. Ll. Hammick, J. C. Smith, S. G. P. Plant.

*Potter, **Elizabeth Mary,** B.A. (Oxon). British. 20, Manor Place, Holywell, Oxford. Research Student, Oxford. *Signed by :* Ronald P. Bell, H. M. Powell, L. E. Sutton.

†**Robinson, Norman,** B.Sc.Hons. (Glas.). British. Craignure, Ivybank, Port Glasgow. Plant Chemist. *Signed by :* J. W. Cook, Stotherd Mitchell, David T. Gibson.

†**Robinson, Rupert Eardley,** A.I.C., A.M.C.T. British. Delamere, Liverpool Road, Widnes. Works Chemist, Albright & Wilson, Ltd. *Signed by :* John K. Wood, O. Rhys Howell, T. K. Walker.

(a)**Roux, Justin Edward.** British. 24, Grand Drive, Raynes Park. Research Assistant at the Wellcome Research Institution. *Signed by :* T. M. Sharp, K. S. Kirby, J. H. Gorvin.

†**Schwartz, Helen Marie,** M.Sc. (Cape Town), A.I.C. British. Department of Chemistry, University of Cape Town, Rondebosch. Junior Lecturer, University of Cape Town. *Signed by :* W. S. Rapson, E. Newbery, W. Pugh.

*Seale, **Frank,** B.Sc.Hons. (Liverpool). British. Lieut., R.E.M.E., 66 H.A.A. Regt., Workshop Section, India Command. H.M. Forces. *Signed by :* A. McGookin, Francis W. Kay, William Doran.

*Seed, **Leslie,** B.Sc.Hons. (Manc.). British. Winnington Hall Club, Northwich. Research Chemist in employ of I.C.I. (Alkali), Ltd. *Signed by :* A. R. Todd, F. S. Spring, H. T. Openshaw.

Simon, Rosemary Dora, B.Sc. (Lond.). British. 34, Mount Park Avenue, S. Croydon. Research Assistant, Bland-Sutton Institute of Pathology. *Signed by :* C. K. Ingold, W. Lawson, H. G. Poole.

*Sing, **Kenneth Stafford William,** Intermediate Science and Subsidiary Maths. British. Hillrise, Third Avenue, Teignmouth. Student at University College, Exeter (Chemistry Honours). *Signed by :* H. T. S. Britton, S. J. Gregg, R. King.

†**Stark, George William Verdun,** B.Sc. (Lond.). British. 24, Brynmill Terrace, Brynmill, Swansea. Research Chemist. *Signed by :* D. T. Lewis, A. R. Ubbelohde, R. Robertson.

Stockdale, Robert Andrew Gordon, B.Sc. (Lond.). British. 6, Whinbush Road, Hitchin. Chemist. *Signed by :* E. de Barry Barnett, Leslie J. Walker, Bernard J. Styles.

(d)**Strachan, Mark Noel,** B.Sc. (Lond.), A.R.C.S., A.I.C. British. The Orchard, Hook Green, Meopham. Research Chemist. *Signed by :* G. Rose, J. T. McCombie, E. R. H. Jones.

*Tatlow, **John Colin,** B.Sc.Hons. (Birm.). British. 2a, Hollies Avenue, Cannock. Research Student, University of Birmingham. *Signed by :* W. N. Haworth, F. Smith, M. Stacey.

*Taylor, **Harry Francis West,** B.Sc. (Lond.). British. 25, Cyril Avenue, Beeston. Demonstrator in the Department of Chemistry, University College, Nottingham. *Signed by :* D. O. Jordan, G. R. Barker, E. B. R. Prideaux, John C. Roberts.

(c)**Touchin, Herbert Roy,** B.Sc. (Lond.). British. 62, Sandringham Road, Brislington, Bristol, 4. Industrial Chemist. *Signed by :* H. M. Hatherley, T. Malkin, John Floren.

‡**Wilson, David Mills,** B.Sc., Ph.D. (Glas.). British. 22, Falkland Road, Ayr. Fuel Technologist (Babcock and Wilcox). *Signed by :* A. B. Crawford, M. M. J. Sutherland, H. G. A. Anderson.

‡**Yeomans, Frank William,** M.P.S. (Gt. Britain and S. Africa). British. 76, Henley Street, Sparkbrook, Birmingham. Manufacturing and Retail Chemist. *Signed by :* Philip F. Rowsell, Rupert Woolby Brooke, J. Newton Friend.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

†**Shuttleworth, Stanley Gordon,** M.Sc. and Ph.D. (S. Africa), F.I.C., South African. Leather Industries Research Institute, Rhodes University College, Grahamstown. Director of Research of the Leather Industries Research Institute, Research Professor at Rhodes University College, and Assistant Controller of Leather. *Signed by :* J. Smeath Thomas, W. F. Barker.

Stephen, Alistair Matthew, M.Sc. (Cape Town). South African. c/o Leather Industries Research Institute, Grahamstown. Research Chemist (Organic Chemistry) at Leather Industries Research Institute. *Signed by :* J. Smeath Thomas, W. F. Barker.

‡**Wallerstein, Leo.** American. 180, Madison Avenue. New York, 16, N.Y. President, Wallerstein Company, Inc. *Signed by :* Foster Dee Snell.

* Reduced annual subscription.
† Three-body.
‡ Two-body.

(a) Joint Student Membership two-body.
(b) Joint Student Membership three-body.
(c) Joint Junior Membership two-body.
(d) Joint Junior Membership three-body.

PAPERS RECEIVED

List of papers received between October 21st and November 19th, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Aminoacridines. Some partition- and surface-phenomena." By A. ALBERT, R. GOLDACRE, and E. HEYMANN.

"The triterpene resinols and related acids. Part XV. The dehydration of α-amyrin and α-amyradienol with phosphoric oxide: 1-α-amyradiene and 1-α-amyratriene." By E. S. EWEN, A. E. GILLAM, and F. S. SPRING.

"5-(*p*-Aminobenzenesulphonamido)thiazole." By M. H. M. ARNOLD and C. W. SCAIFE.

"Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. Part I. Optically active β-octanol, ethyl mandelate, and phenylmethylcarbinol." By W. GERRARD.

"The dibenzoates of sorbitol and mannitol and their methylene derivatives." By W. N. HAWORTH and L. F. WIGGINS.

"The epimerisation of some dimethylene saccharic acids and their derivatives." By W. N. HAWORTH, W. G. M. JONES, M. STACEY, and L. F. WIGGINS.

"Some derivatives of glucosaccharic acid." By W. N. HAWORTH and W. G. M. JONES.

"2-Methyl*meso*benzanthrone and some derivatives." By D. H. HEY, R. J. NICHOLLS, and C. W. PRITCHETT.

"Studies in the polyene series. Part XII. Ethynylcarbinols from sorbaldehyde and octatrienal. Poly-carbon anionotropic rearrangements." By I. M. HEILBRON, E. R. H. JONES, and J. T. McCOMBIE.

"Studies in the polyene series. Part XIII. Acetylenylglycols from polyene aldehydes and their rearrangement with acids." By I. M. HEILBRON, E. R. H. JONES, and R. A. RAPHAEL.

"Studies in the polyene series. Part XIV. Anionotropic rearrangements of the carbinols obtained from condensation of crotonaldehyde with both vinyl- and 2-methylvinyl-acetylene." By I. M. HEILBRON, E. R. H. JONES, and B. C. L. WEEDON.

"Studies in the polyene series. Part XV. The condensation of carbonyl compounds with propenylethynylcarbinol and hex-3-en-5-yn-2-ol." By J. CYMERMAN, I. M. HEILBRON, A. W. JOHNSON, and E. R. H. JONES.

"Studies in the polyene series. Part XVI. The condensation of αβ-unsaturated ketones with 1-hexyne." By J. CYMERMAN, I. M. HEILBRON, and E. R. H. JONES.

"3-Chloro-1-α-chlorovinyl-Δ^3-*cyclo*hexene and 1 : 5-dichloro-$\Delta^{1:5}$-*cyclo*octadiene." By J. G. T. BROWN, J. D. ROSE, and J. L. SIMONSEN.

"Absorption spectra and the structure of pyrethrins I and II. Part II." By A. E. GILLAM and T. F. WEST.

"The structure of pyrethrolone and related compounds." By T. F. WEST.

"The constitution of the so-called carbothialdines and the preparation of some homologous compounds." By A. D. AINLEY, W. H. DAVIES, H. GUDGEON, J. C. HARLAND, and W. A. SEXTON.

"Thermodynamic dissociation constants of hydroxy- and alkoxy-benzoic acids." By BRYNMOR JONES and J. C. SPEAKMAN.

"Rubber, polyisoprenes, and allied compounds. Part VI. The mechanism of halogen-substitution reactions." By G. F. BLOOMFIELD.

"Rubber, polyisoprenes, and allied compounds. Part VII. Additive halogenation of rubber and of dihydromyrcene." By G. F. BLOOMFIELD.

"2 : 4-Diarylpyrroles. Part IV. The mechanism of the Leuckart reaction on β-benzoyl-α-phenylpropionitrile." By W. H. DAVIES and M. A. T. ROGERS.

"The constitution of yeast ribonucleic acid. Part VII. Diffusion coefficients and molecular weights." By W. E. FLETCHER, J. M. GULLAND, D. O. JORDAN, and (in part) H. E. DIBBEN.

"The constitution of yeast ribonucleic acid. Part VIII. Electrometric titration of the acidic groups." By W. E. FLETCHER, J. M. GULLAND, and D. O. JORDAN.

TECHNOLOGY DEPT.

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December, 1943

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, January 20th, 1944, at 2.30 p.m.

Tilden Lecture on "The Scope and Limitations of Infra-red Measurements in Chemistry," by Dr. H. W. Thompson, M.A.

Thursday, February 17th, 1944, at 2.30 p.m.

Lecture on "Chemotherapy in Tropical Medicine," by Dr. A. J. Ewins, F.R.S.

OUTSIDE LONDON.

EDINBURGH.

Friday, February 11th, 1944, at 7.30 p.m.

Lecture on "Molecular Regimentation in Solid and Liquid," by Professor G. M. Bennett, M.A., Sc.D., F.I.C. To be held in the Lecture Theatre, Medical Chemistry Department, The University, Teviot Place.

GLASGOW.

Friday, February 18th, 1944, at 7.30 p.m.

Tilden Lecture on "The Scope and Limitations of Infra-red Measurements in Chemistry," by Dr. H. W. Thompson. To be held at the Royal Technical College, and to be preceded at 7 p.m. by the Annual General Meeting of Local Fellows.

LIVERPOOL.

Thursday, January 13th, 1944, at 4 p.m.

Lecture on "The 'Reactivity' of Organic Compounds," by Professor E. D. Hughes, D.Sc., Ph.D., F.I.C. Joint Meeting with the Royal Institute of Chemistry, Society of Chemical Industry, and British Association of Chemists. To be held in the Muspratt Lecture Theatre of the University.

MANCHESTER.

Thursday, January 20th, 1944, at 6.30 p.m.

Lecture on "Pyrethrum and the Pyrethrins," by Dr. A. E. Gillam. Joint Meeting with the Local Section of the Royal Institute of Chemistry. To be held in the Engineers' Club, Albert Square.

NORTH WALES.

Friday, February 11th, 1944, at 5.30 p.m.

Lecture on "Substitution," by Professor C. K. Ingold, D.Sc., F.R.S. Joint Meeting with the University College of Bangor Chemical Society. To be given in the Chemistry Lecture Theatre of University College, Bangor.

SHEFFIELD.

Friday, February 11th, 1944, at 5.30 p.m.

Lecture on "The Synthesis of Chemotherapeutic Agents," by Mr. S. Ellingworth, M.Sc. To be held in the Chemistry Lecture Theatre of the University.

SOUTH WALES.

Friday, January 21st, 1944, at 6 p.m.

At Cardiff.

Lecture on "Chemical Reactivity," by Professor E. D. Hughes, D.Sc., Ph.D. Joint meeting with the Cardiff Technical College Chemical Society. To be held at the Technical College.

Saturday, February 12th, 1944, at 3.30 p.m.

Lecture on "The Study of Reaction Mechanism," by Dr. H. B. Watson. Joint meeting with the Royal Institute of Chemistry. To be held at University College, Cathays Park.

Saturday, January 22nd, 1944, at 3 p.m.

At Swansea.

Lecture on "Chemical Reactivity," by Professor E. D. Hughes, D.Sc., Ph.D. Joint meeting with the University College Students' Chemical Society. To be held in the Chemistry Department of University College.

DUBLIN.

Wednesday, February 23rd, 1944, at 7.30 p.m.

Lecture on "Monomolecular Films," by Dr. V. E. J. Davidson. Joint meeting with the Southern Ireland Section of the Royal Institute of Chemistry. To be held in the Chemistry Theatre, University College, Dublin.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
John Bridgeford Coppock	1890	December 3rd, 1943.
James Flint	1928	October 21st, 1943.
Christopher Colborne Graham	1880	November 22nd, 1943.
Alexander Lauder	1891	November 11th, 1943.
Harry Hollis Robins	1889	October 23rd, 1942.

CONGRATULATIONS.

The congratulations of the Council have been conveyed to the following Fellows, who have completed 60 and 50 years of Fellowship:

60 years of Fellowship.

	Elected.
Gordon Crewe Chambres	December 6th, 1883.
Reginald Graham Durrant	,, ,,

50 years of Fellowship.

Frank Browne	December 7th, 1893.
John Dixon Brunton	,, ,,
Henry Edwin Hadley	,, ,,
Henry Ormsby Hale	,, ,,
Harold Harris	,, ,,
Harold Bertram Holthouse	,, ,,
Philip Schidrowitz	,, ,,

ACKNOWLEDGMENTS.

The Council have expressed their thanks to Mr. A. M. Bremner, Dr. F. A. Freeth, and Professor D. H. Peacock for contributions to the Publications Fund.

REPRESENTATIVE FOR CANADA.

Professor W. D. McFarlane, M.A., Ph.D. (Macdonald College, St. Anne de Bellevue, Quebec, Canada), has accepted the invitation of the Council to act as Representative of the Society for Canada. Fellows residing in Canada are invited to communicate with Professor McFarlane for information regarding the activities of the Society.

ANNUAL REPORTS FOR 1942, VOLUME XXXIX.

The Council regret to state that the stock of the Annual Reports for 1942 (Volume XXXIX) is now exhausted. It is hoped to reproduce this volume after the War.

RESEARCH GRANT.

The Council have made the following grant from Research Fund:

	£	s.	d.
Plant products of New Zealand. (L. H. Briggs)	10	0	0

FELLOWSHIP.

The following 58 candidates were elected Fellows of the Chemical Society on December 16th, 1943:

Ian Glyn Anderson.
Norman Barton.
Gordon Alfred Baxandall.
Raymond John Bithell.
Allan Clare Bridge.
Peter Maxwell Grayson Broughton.
Peter Nelson Campbell.
Norman Stanley Corney.
Robert Ernest Davies.
Eric Thomas Dewar.
Michael Elliott.
William Thomas Elwell.
Ronald Victor George Ewens.
Eric Austin Farrand.
Peter Atholl Jackson Gate.
Ronald Gill.
Eric Harold Green.
Ernest Walter Greenaway.
Gerald Henry Hargreaves.
James Leslie Humphreys.
Edward William Jackson.
Arthur George Jones.
John Mather Jones.
William George Leeds.
Ian Leslie.
John Ewing McKail.
Colin George MacLean.
John McNab.
Noel Percy Mallet.
Solomon Mattana.
Paul José de Mayo.
Philip Edward Milsom.
Cedric Duncan Moore.
Arnold Alec Henry Moss.
Desmond Gerard O'Sullivan.
Douglas Sutherland Payne.
John Leslie Phillips.
Nicholas Polgar.
Elizabeth Mary Potter.
Norman Robinson.
Rupert Eardley Robinson.
Justin Edward Roux.
Helen Marie Schwartz.
Frank Seale.
Leslie Seed.
Stanley Gordon Shuttleworth.
Rosemary Dora Simon.
Kenneth Stafford William Sing.
George William Verdun Stark.
Alistair Matthew Stephen.
Robert Andrew Gordon Stockdale.
Mark Noel Strachan.
John Colin Tatlow.
Harry Francis West Taylor.
Herbert Roy Touchin.
Leo Wallerstein.
David Mills Wilson.
Frank William Yeomans.

GENERAL ANNOUNCEMENTS

PUBLICATIONS OF THE AMERICAN CHEMICAL SOCIETY.

	Price to Public.	Postage.
(1) *Journal of the American Chemical Society*	$8.50	$1.50
(2) *Chemical Abstracts*	$12.00	$2.40
(3) *Industrial and Engineering Chemistry:*		
(*a*) Industrial Edition (monthly) and Analytical Edition (monthly), sold only as a unit	$4.00	$2.25
(*b*) Chemical and Engineering News (semi-monthly)	$2.00	$0.60
(*a*) and (*b*) together	$6.00	$2.85

A discount of 10 per cent. is allowed on (1) and (2) when sent to same address and ordered at the same time. No discount on (3).

A special discount of 10 per cent. off all the above prices (exclusive of postage) is allowed to Fellows of the Chemical Society who are not Members of the American Chemical Society.

Fellows residing in Canada pay one-third postage rates and for those residing in countries in the Pan-American Union and Spain there is no charge for postage.

Application should be made direct to the Secretary, American Chemical Society, 1155, Sixteenth Street, N.W., Washington, D.C., U.S.A.

Chemical Reviews (bi-monthly, 2 vols. per year) ..... $4.00 per vol. / $7.00 per year. } postage $0.50 per vol.

Application should be made to the Williams and Wilkins Company, Mount Royal and Guilford Avenues, Baltimore, Md., U.S.A.

NOTE.—Permission to remit money abroad must be obtained through a Bank.

The American Chemical Society regrets that owing to restrictions in the use of paper, no new subscriptions can be entertained.

UNITED STATES OFFICE OF WAR INFORMATION REFERENCE LIBRARY.

The American Embassy in London invite Fellows of the Society to make use of their Special War Reference Library (Room 21, 1, Grosvenor Square, W. 1), which contains basic printed data explanatory of all phases of American life, and recent data on other subjects published in the United States. Every effort is being made to secure the rapid transmittal of at least a single copy of a wide range of American periodicals, books, and documents. The library is open on week-days from 9 a.m. to 6 p.m.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, January 17th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

*Bell, **Marjorie,** B.Sc.(Lond.). British. Rylstone, 38, Muncaster Gate, York. Student of University of London, Institute of Education. *Signed by :* T. S. Moore, M. M. T. Plant, F. H. Lowe.

†Bolland, **Clifford Beaumont,** B.Sc.Hons. and M.Sc. (Leeds), A.I.C., A.M.Inst.Gas.Eng., Asoc.M. Coke Oven Managers Assoc. British. Three Trees, Darby Road, Burton-on-Stather. Chief Chemist and Chief of Technical Department. *Signed by :* T. P. Dee, H. J. Hodsman, D. T. A. Townend.

(c)Calvert, **Ronald,** B.Sc.Hons. (Manc.). British. 49, Crawford Street, Monton, Eccles. Assistant Research Chemist. *Signed by :* N. Lewton-Brain, James Coen, E. Mitchell Learmonth.

*Chivers, **Anthony Robert Lewis,** Demyship, Magdalen College, Oxford, Higher Certificate (Oxford and Cambridge) with distinctions in Physics and Chemistry. British. 38, Melbury Avenue, Southall. Student of Chemistry at Magdalen College. *Signed by :* F. E. King, Ronald P. Bell, L. E. Sutton.

*Cole, **Edward Harry.** British. Exeter College, Oxford. Undergraduate reading for Honours Degree in Natural Science (Chemistry). *Signed by :* C. N. Hinshelwood, R. M. Lodge, Ronald P. Bell, Harry Irving.

*Coupe, **Raymond Richard,** B.Sc. (Lond.). British. 3, Teddington Park, Teddington. Research Chemist at Paint Research Station. *Signed by :* C. W. Davies, S. H. Bell, L. A. Jordan.

†Cudlipp, **Gerald William,** B.Sc.Hons. (Lond.), Board of Education Teachers' Certificate. Teachers' Diploma, Exeter. British. Analytical Chemist. *Signed by :* J. E. Mills, K. A. Graham, C. L. Knight.

*deVoil, **Michael John Scott,** Inter.B.Sc. (Lond.). British. 92, Nether Street, Finchley, N. 12. Student. *Signed by :* Ishbel G. M. Campbell, N. K. Adam, K. R. Webb.

(d)Elvidge, **John Arthur,** A.R.C.S. British. Southcroft, Old Barn Lane, Croxley Green. Research Student. *Signed by :* A. H. Cook, E. R. H. Jones, L. N. Owen.

†Green, **Gerald Herman,** B.Sc.Tech. (Manc.), A.I.C. British. 36, Montpelier Rise, Wembley. Senior Chemist, J. Lyons & Co., Ltd. *Signed by :* Leslie H. Lampitt, J. Kenner, O. Rhys Howell, John K. Wood.

Groenewoud, **Philippus Wilhelmus Gerhardus,** M.Sc. (S. Africa), D.Phil. (Oxon). South African. University College of the Orange Free State, Bloemfontein. Professor of Organic Chemistry. *Signed by :* Robert Robinson, W. Baker, S. G. P. Plant.

(d)Hull, **Roy,** B.Sc.Hons. (Lond.), A.I.C. British. 91, Hall Lane, Farnworth, Nr. Bolton. Assistant Chemist in a Research Department. *Signed by :* C. H. Vasey, R. Greenhalgh, C. G. Raison.

†Jackman, **Agnes,** A.R.C.Sc.I. (now B.Sc. National University, Dublin), B.Sc. (Lond.), A.I.C. British. 55 Spencer Park, Wandsworth, S.W. 18. Lecturer in Chemistry, King's College of Household and Social Science, University of London. *Signed by :* C. K. Tinkler, A. Hickling, L. Hunter.

†Keaton, **James,** A.I.C. British. 20, The Grove, Benton. Industrial Chemist. *Signed by :* G. R. Clemo, Richard Raper, Wesley Cocker.

Lawther, **Patrick Joseph.** British. Kingfield, Montagu Drive, Oakwood, Leeds, 8. *Signed by :* Bernard Hickson, A. R. Harriman, B. E. Pritchard.

*Lever, **Donald McNeill.** British. 11, Beech Grove, Fallowfield, Manchester. Student at College of Technology, Manchester, for B.Sc.Tech. (Honours) in Applied Chemistry. *Signed by :* J. Kenner, G. Baddeley, J. W. Batty.

Loo, **John Ti-Li,** B.Sc. (National Tsing-Hua Univ.). Chinese. Magdalen College, Oxford. Senior Student, University of Oxford. *Signed by :* Robert Robinson, R. Ghosh, D. Holmes, John B. Jepson.

Mancera, **Octavio,** B.Sc. (National University of Mexico). Mexican. Magdalen College, Oxford. Research Work at the Dyson Perrins Laboratories, Oxford. *Signed by :* Ronald P. Bell, R. Robinson, Arthur J. Birch.

†Marsh, **John Ronald,** A.I.C. British. 122, High Road, S. Woodford, E. 18. Chemist in Research and Development Laboratory of Cork Manufacturing Co., Ltd., and Flexo Plywood Industries, Ltd. *Signed by :* J. H. Wilkinson, R. W. Jukes, I. L. Finar.

Marshall, **John Ray,** Higher School Certificate and School Certificate. British. Duncombe, Aldbury, Tring. Undergraduate of Magdalen College, Oxford. Reading Chemistry. *Signed by :* L. E. Sutton, Ronald P. Bell, R. M. Lodge.

*Meakin, **Joan,** B.Sc. (Lond.). British. 15, Rowditch Avenue, Derby. Student of University of London, Institute of Education. *Signed by :* T. S. Moore; M. M. T. Plant, F. H. Lowe.

*Morley, **John Selwyn,** Inter.B.Sc. (Dun.). British. Durham Castle, Durham. Honours Student in Chemistry, University College, Durham University. *Signed by :* G. H. Christie, C. W. Gibby, J. C. E. Simpson.

†Moss, **Donald Ernest,** B.Sc. (Lond.), A.I.C. British. Manton, 172, Sutton Road, Mansfield. Works Chemist. *Signed by :* D. O. Jordan, G. R. Barker, E. O'F. Walsh.

Muir, **Isabella Helen Mary,** B.A.Hons. (Oxon.). British. Beckside House, Old Catterick. Research Chemist, Oxford University. *Signed by :* Ronald P. Bell, J. C. Smith, J. A. Barltrop.

(a)Ofner, **Peter,** Inter.B.Sc., Subsid.B.Sc.Physics (Lond.), Registered for B.Sc. (Special), June 1945. German. 22, Catterick Road, East Didsbury, Manchester, 20. Laboratory Assistant with Victor Wolf, Ltd. *Signed by :* John Graymore, A. Wolf, F. Howlett.

Oldbury, **Edward Brooke,** School Certificate of Northern Universities. English. 43, Kenilworth Gardens, South Shore, Blackpool. Research Chemist at Koray, Ltd. *Signed by :* Ernest Taylor, Walter Tebrich, W. Atherton.

‡O'Neill, **Hugh Anthony,** B.A., M.Sc. (N.U.I.), A.I.C. Irish. c/o Messrs. Lorrilleux & Bolton, Ashley Road, Tottenham, N. 17. Assistant Chemist. *Signed by :* Alex Findlay, G. N. Burkhardt, J. B. Firth, R. Leslie Collett.

†Pawson, **Eric,** B.Sc. (Lond.), A.I.C. British. Beru, Scawby Brook, Brigg. Chief Chemist, The Farmers' Co., Ltd. *Signed by :* A. J. Suthers, Harry Thompson, Edward Chapman.

(c)Pullin, **Alan David Escott,** B.Sc. (Lond.). English. Kims, Orchard Lane, Amersham. Chemist. *Signed by :* W. P. Grove, Douglas R. K. Coleman, H. G. Poole.

Quayle, **Alan,** B.Sc.Hons. (Manc.). British. Ryedale, 27, Skipper's Lane, Normanby, Middlesbrough. Officer-Cadet, Royal Corps of Signals. *Signed by :* M. Polanyi, F. S. Spring, J. Wardleworth.

†**Rich, Albert Charles,** B.Sc.(Econ.) Hons. (Lond.), A.I.C. British. 18, Drayton Park Avenue, West Drayton. Chemist. *Signed by :* J. O'Mara-Bockris, B. G. Welsh, J. F. Herringshaw.

†**Rose, Maurice James,** B.Sc., Ph.D. (Lond.), A.I.C. British. 40, Panton Road, Hoole, Chester. Research Chemist. *Signed by :* Samuel Smiles, R. H. Hunter, B. D. W. Luff.

***Smith, Jack,** H.S.C. Nat. Science Demyship, Magdalen College, Oxford. English. 38, Burnside Road, Kendal. Reading Chemistry at Oxford University. *Signed by :* L. E. Sutton, Ronald P. Bell, H. M. Powell.

***Sykes, Keble Watson,** B.A. (Oxon). British. The Queen's College, Oxford. Advanced Student at Oxford engaged in research in Chemistry. *Signed by :* Ronald P. Bell, E. J. Bowen, Richard Barrow.

†**Walker, Herbert,** B.Sc. (Lond.), A.I.C. British. 14, Allerton Grove, Higher Tranmere, Birkenhead. Chemist. *Signed by :* A. E. Findley, R. R. Butler, James Smith.

***Warren, Donovan Teighe,** Inter.B.Sc. (Lond.). English. 49, Canning Road, Addiscombe. Fireman (N.F.S.). Temporary war-time service. Private study with view to graduation. *Signed by :* John H. Gorvin, J. A. Goodson, W. Solomon.

***Watkinson, Deryck Hague,** Inter.B.Sc. (Lond.), B.Sc. (Special), Subsidiary Physics. British. 4, Leacroft Road, Chorlton-cum-Hardy, Manchester, 21. Chemist. *Signed by :* John Graymore, I. Goodman, James T. Kendall.

***Williams, Charles Frederick,** Inter.B.Sc. British. 17, Lodge Road, Southampton. Junior Chemist. Pirelli General Cable Works, Ltd. Part time student for B.Sc. (Special) at University College, Southampton. *Signed by :* S. H. Harper, I. G. M. Campbell, K. R. Webb.

Wright, William Herbert Garfield, Part I B.Sc. (L'pool). British. 180, South Mossley Hill Road, Grassendale, Liverpool, 19. Technical Assistant. *Signed by :* A. Cooksey, E. Foley, Francis W. Kay.

(d)**Wyse, William John,** Inter.B.Sc. and 1st part B.Sc. Special (Lond.). British. 80, Links Road, Ashtead. Laboratory Assistant. *Signed by :* E. W. F. Gillham, W. C. J. Ross, W. Davey.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Bolton, Elmer Keiser,** A.B. (Bucknell Univ.) 1908, Hon.D.Sc., 1932, A.M. (Harvard) 1910, Ph.D., 1913, Hon.D.Sc. (Univ. of Delaware), 1942, student Kaiser Wilhelm Inst. für Chemie, Berlin, 1913–1915, Recipient, Chemical Industry Medal, 1941, E. I. du Pont de Nemours & Co., Chemist, Experimental Station, 1915–1917, Organic Division, 1917, Assistant Manager, Lodi Works, 1918, Manager, Organic Division Chemical Department, 1919–1921, Director, Chemical Section, Dyestuffs Dept., 1921–1929, Assistant Chemical Director, 1929–1930, Chemical Director, 1930–. American. E. I. du Pont de Nemours & Co., Technical Library. *Signed by :* William S. Calcott.

†**Charap, Myer Martin,** B.Sc. (Lond.), F.I.C. British. Calle Moreno 888, Buenos Aires. Industrial Chemist. *Signed by :* Charles Dorée.

Mills, Thomas George David. Australian. 5, Hindon Street, Blackburn, Victoria, Australia. Aircrew (Observer) duties with Royal Australian Air Force in England. *Signed by :* F. J. Watson.

†**Morton, Ian Douglas,** M.Sc. (Univ. of New Zealand), A.I.C. British. Egmont Village, Tararaki, N.Z. Research Chemist at Dairy Research Institute, N.Z. *Signed by :* P. W. Robertson, F. H. McDowell.

* Reduced annual subscription.
† Three-body.
‡ Two-body.

(a) Student Membership two-body.
(b) Student Membership three-body.
(c) Junior Membership two-body.
(d) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between November 19th and December 16th, 1943. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"A new method of nuclear methylation of aromatic amines." By (Miss) M. G. Barclay, A. Burawoy, and G. H. Thomson.

"Studies on hydrogen cyanide. Part XIII. The dielectric constant of anhydrous hydrogen cyanide." By G. E. Coates and J. E. Coates.

"The action of cuprous oxide on diazotised amines. Part III. In sulphuric acid–glacial acetic acid medium." By H. H. Hodgson, S. Birtwell, and E. Marsden.

"Benz*cyclo*octatetraenes. Part V. The absorption spectra of tetraphenylene and 1 : 2 : 3 : 4 : 5 : 6-tribenz-$\Delta^{1:3:5:7}$-*cyclo*octatetraene in relation to their structures." By W. S. Rapson, (Miss) H. M. Schwartz, and E. T. Stewart.

"Derivatives of monosilane. Part III. The fluoromonosilanes." By H. J. Emeléus and A. G. Maddock.

"Some new ethyl and phenyl silicon fluorides." By H. J. Emeléus and C. J. Wilkins.

'Rubber, polyisoprenes, and allied compounds. Part VIII. Reaction with nitric oxide." By G. F. Bloomfield and (in part) G. A. Jeffrey.

"The mechanism of the reaction of (−)-phenylalkylcarbinols with hydrogen bromide." By C. L. Arcus.

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, February 17th, 1944, at 2.30 p.m.

Lecture on "Chemotherapy in Tropical Medicine," by Dr. A. J. Ewins, F.R.S.

Thursday, March 16th, 1944, at 2.30 p.m.

Ninth Pedler Lecture on "Newer Knowledge of the Biochemistry of the Thyroid Gland," by Dr. C. R. Harington, M.A., F.R.S.

Wednesday, March 15th, 1944, at 2.30 p.m.

Lecture on "The *X*-ray Examination of Plastics," by Dr. W. T. Astbury, to be held at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C. 1. Meeting of the Plastics Group of the Society of Chemical Industry, to which Fellows are invited.

OUTSIDE LONDON.

EDINBURGH.

Friday, February 11th, 1944, at 7.30 p.m.

Lecture on "Molecular Regimentation in Solid and Liquid," by Professor G. M. Bennett, M.A., Sc.D., Ph.D., F.I.C. To be held in the Lecture Theatre, Medical Chemistry Department, The University, Teviot Place.

GLASGOW.

Friday, February 18th, 1944, at 7.30 p.m.

Tilden Lecture on "The Scope and Limitations of Infra-red Measurements in Chemistry," by Dr. H. W. Thompson. To be held at the Royal Technical College, and to be preceded at 7 p.m. by the Annual General Meeting of Local Fellows.

LEEDS.

Thursday, March 2nd, 1944, at 5.30 p.m.

Discussion on "The Mechanism of Oxidation-Reduction Reactions," to be opened by Professor H. S. Raper, C.B.E., D.Sc., F.R.S., Professor M. G. Evans, D.Sc., and Dr. W. A. Waters. Official meeting of the Society, and joint meeting with the Leeds University Chemical Society. To be held in the Chemistry Lecture Theatre of the University.

MANCHESTER.

Tuesday, February 29th, 1944, at 5 p.m.

Meeting for the reading of original papers. To be held in the Chemistry Lecture Theatre of the University.

Friday, March 24th, 1944, at 5.30 p.m.

Ninth Pedler Lecture on "Newer Knowledge of the Biochemistry of the Thyroid Gland," by Dr. C. R. Harington, M.A., F.R.S. To be held in the Chemistry Lecture Theatre of the University.

NEWCASTLE AND DURHAM.

Friday, March 17th, 1944, at 6 p.m.

Tilden Lecture on "Some Aspects of the Organic Chemistry of Phosphorus and Arsenic," by Dr. F. G. Mann, F.I.C. Official Meeting of the Society. To be held at King's College, Newcastle-upon-Tyne.

NORTH WALES.

Friday, February 11th, 1944, at 5. 30 p.m.

Lecture on "Substitution," by Professor C. K. Ingold, D.Sc., F.R.S. Joint Meetings with the University College of Bangor Chemical Society. To be given in the Chemistry Lecture Theatre of the College.

NOTTINGHAM.

Tuesday, March 28th, 1944, at 6.30 p.m.

Lecture on "Some Aspects of the Organic Chemistry of Phosphorus and Arsenic," by Dr. F. G. Mann, F.I.C. To be held in the Chemistry Lecture Theatre of University College, Shakespeare Street.

SHEFFIELD.

Friday, February 11th, 1944, at 5.30 p.m.

Lecture on "The Synthesis of Chemotherapeutic Agents," by Mr. S. Ellingsworth, M.Sc. To be held in the Chemistry Lecture Theatre of the University.

SOUTH WALES.

At Cardiff.

Saturday, February 12th, 1944, at 3.30 p.m.

Lecture on "The Study of Reaction Mechanism," by Dr. H. B. Watson.

Friday, March 3rd, 1944, at 6.15 p.m.

Lecture on "Enzymes and Vitamins," by Professor A. R. Todd, D.Sc., F.R.S. Joint meetings with the Royal Institute of Chemistry and the Society of Chemical Industry. To be held at University College, Cathays Park.

DUBLIN.

Wednesday, February 23rd, 1944, at 7.30 p.m.

Lecture on "Monomolecular Films," by Dr. V. E. J. Davidson. Joint meeting with the Southern Ireland Section of the Royal Institute of Chemistry. To be held in the Chemistry Theatre of University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, January 20th, 1944, at 2.30 p.m.

The President, Dr. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Scientific Meeting of November 18th, 1943, which had been circulated, were taken as read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: L. Haywood, B. C. Platt, W. M. Smith, H. C. Raine, P. A. Small, N. W. Hanson, G. H. Osborn, F. W. Yeomans, C. W. Lowe, G. T. Kennedy, B. A. Jackman, K. C. Bryant, A. W. J. Gollin, C. P. Rhys, Dorothy G. Barker, E. W. F. Gillham, J. M. Jones, James F. Williams, R. Greene-Kelly.

TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Dr. H. W. Thompson, M.A., to deliver his Tilden Lecture, entitled: "The Scope and Limitations of Infra-red Measurements in Chemistry."

At the conclusion of the Lecture, a vote of thanks to the Lecturer, proposed by Dr. G. B. B. M. Sutherland, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Arthur Maurice Marlow	1940	August 7th, 1943.
Frank Lee Pyman	1905	January 1st, 1944.
William Woodhouse	1941	December 10th, 1943.

CONGRATULATIONS.

The congratulations of the Society have been conveyed to the following Fellows, whose names were in the list of New Year Honours

K.C.V.O.: Sir Harold Hartley.

Knights Bachelor: Sir Jack Drummond, Sir John Fox, and Sir Thomas Merton.

O.B.E.: Dr. J. G. King, and Dr. J. E. Mackenzie.

ACKNOWLEDGMENT.

The thanks of the Council have been conveyed to Capt. H. H. Armstrong for a contribution to the Publications Fund.

BEQUEST.

The Council have to announce that under the Will of the late Mr. Percy Appleyard of Perth, Western Australia, and subject to a life interest, one-third of his estate has been left to the Chemical Society, such share to be invested and the income therefrom to be applied as to one-half to the Publications Fund and one-half to the Research Fund of the Society.

VACANCIES ON COUNCIL.

The names of the members of Council who retire at the next Annual General Meeting are as follows:

President : Dr. W. H. MILLS.

Elected Ordinary Members of Council :

Constituency I (South-East England). Dr. H. J. EMELÉUS, Sir JOHN FOX, and Dr. B. C. SAUNDERS.
Constituency IV (North-East England). Professor J. M. GULLAND and Professor R. D. HAWORTH.

The above are ineligible for election to the same office until after the lapse of one year.

In accordance with Bye-Law 47, Dr. W. H. MILLS, as retiring President, becomes a Vice-President who has filled the office of President.

NOTICE is hereby given that in accordance with the Bye-Laws the following vacant places in the Council fall due to be filled at the Annual General Meeting to be held in London on Thursday, 20th April, 1944 :

President	*One vacancy.*
Elected Ordinary Members of Council :	
Constituency I (S.E. England)	*Three vacancies.*
„ **IV** (N.E. England)	*Two vacancies.*

In accordance with Bye-Law 23, the Council have nominated Professor W. N. Haworth to the office of President. This will create a vacancy among the Vice-Presidents who have not filled the office of President.

Nominations by Fellows for the office of President or Vice-President may be made in writing **signed by at least twenty Fellows.**

Fellows resident in a constituency may nominate any Fellow resident in that constituency for election to the Council to fill a vacancy among Elected Ordinary Members of Council allotted to that Constituency. Every such nomination must be in writing **signed by at least fifteen Fellows resident in that Constituency.**

Every nomination must relate to one vacant place only, and must be accompanied by a signed declaration by the nominee that he is willing to accept office, if elected.

All nominations must be received by the Honorary Secretaries at the Society's Rooms **not later than Monday, the 14th February, 1944.**

Forms of nomination can be obtained on application to the General Secretary. Applicants should indicate the vacancy for which the form is required.

FELLOWSHIP.

The following 44 candidates were elected Fellows of the Society on January 20th, 1944 :

Marjorie Bell.
Clifford Beaumont Bolland.
Elmer Keiser Bolton.
Ronald Calvert.
Myer Martin Charap.
Anthony Robert Lewis Chivers.
Edward Harry Cole.
Raymond Richard Coupe.
Gerald William Cudlipp.
Michael John Scott de Voil.
John Arthur Elvidge.
Gerald Herman Green.
Philippus Wilhelmas Gerhardus Groenewoud.
Roy Hull.
Agnes Jackman.
James Keaton.
Patrick Joseph Lawther.
Donald McNeill Lever.
John Ti-Li Loo.
Octavio Mancera.
John Ronald Marsh.
John Ray Marshall.
Joan Meakin.
Thomas George David Mills.
John Selwyn Morley.
Ian Douglas Morton.
Donald Ernest Moss.
Isabella Helen Mary Muir.
Peter Ofner.
Edward Brooke Oldbury.
Hugh Anthony O'Neill.
Eric Pawson.
Alan David Escott Pullin.
Alan Quayle.
Albert Charles Rich.
Maurice James Rose.
Jack Smith.
Keble Watson Sykes.
Herbert Walker.
Donovan Teighe Warren.
Deryck Hague Watkinson.
Charles Frederick Williams.
William Herbert Garfield Wright.
William John Wyse.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, February 14th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

†**Aldred, John,** A.I.C. British. The Rookery, Hough Lane, Anderton, Northwich. Research Chemist, I.C.I. Alkali Ltd. *Signed by :* A. G. Francis, Alex. Findlay, R. Leslie Collett.

Anker, Rudolf Martin, B.Sc. and Ph.D. (Lond.). Danzig. 46, Mount Park Road, W. 5. Research Chemist. *Signed by :* A. H. Cook, L. N. Owen, E. R. H. Jones.

***Beck, William Henry,** B.Sc.Hons. (St. Andrews). British. Chemistry Department, University College, Dundee. Research Student in Chemistry. *Signed by :* John D. M. Ross, Isobel A. Smith, Robert Roger, E. M. Luis.

Bell, William Rhys Graham, B.Sc.Hons. and M.Sc. (Wales), Glamorgan Research Scholar, 1923—4, 20 years Senior Chemistry Master, Ystalyfera County School; Member of Science Masters Association and Past Chairman of South Wales Branch. British. Kelmscolt, Ystalyfera, Swansea. Assistant Master (Secondary School). *Signed by :* J. E. Coates, W. J. Jones, H. Ll. Bassett.

Benson, Arnold, College of Preceptors Exam. (Higher with honours), High School and Technical College Education. Apprenticed to Pharmacy. English. 3, Grange Avenue, Thornbury, Bradford. Technical Representative, Area Manager, Messrs. Sharpe & Dohme, Ltd. *Signed by :* J. B. Stocks, M. Taylor, H. L. McDonald Liégeois.

†**Blakeley, John Dyson,** M.Sc. (Lond.). F.I.C. British. The Cape Asbestos Co., Ltd., Harts Lane, Barking. Chief Chemist and Technical Manager. *Signed by :* Alex. Findlay, A. G. Francis, R. Leslie Collett.

†**Bolton, Frank Monkman,** A.I.C. British. 9, Hornsey Lane Gardens, Highgate, N. 6. Analyst. *Signed by :* Kirk Baird, J. R. Nicholls, J. K. Whitehead.

†**Borrows, Edward Teggin,** B.Sc.Hons. (Manc.), A.I.C. British. Glaxo Laboratories, Greenford. Research Chemist. *Signed by :* E. M. Gibbs, B. Arthur Hems, F. A. Robinson.

(a) **Brading, Joyce Winifred Ethel,** B.Sc. (Lond.), Subsid. Physics, taking Hons. Chemistry, June, 1944. British. Royal Holloway College, Englefield Green. Student. *Signed by :* T. S. Moore, M. M. T. Plant, F. H. Lowe.

Breyer, Bruno, M.D. (Padua), Ph.D. (Bonn), Assistant lecturer in chemistry, University of Bonn; Research Worker, Dept. of Pharmacology, University of Padua; Research Worker, Dept. of Colloid Science, University of Cambridge. 479, Canterbury Road, Campsie, N.S.W. Commonwealth Research Student, Dept. of Organic Chemistry, Sydney. *Signed by :* Thomas Iredale, Adrien Albert, J. C. Earl.

Buchanan, George Ludovic, B.Sc.Hons. (Glas.), A.I.C. Scottish. 15, Patricia Drive, Hornchurch. Research Chemist, Messrs. May & Baker, Ltd. *Signed by :* Julius N. Ashley, R. A. Raphael. James S. Moffatt.

(d) **Burkin, Alfred Richard,** B.Sc. (Lond.). British. 68, Walnut Tree Road, Dagenham. Research Chemist. *Signed by :* J. Ratcliffe, C. G. Smith, A. E. Kellie.

(a) **Cheatle, Jack Ronald William,** School Certificate. British. 125, Oldfield Road, Balsall Heath, Birmingham, 12. Research Laboratory Assistant. *Signed by :* T. T. Jones, J. Sheridan, G. Barnett.

(d) **Cooper, Kenneth Charles,** Inter. B.Sc. (H.S.C.), attending courses at Merchant Venturers Tech. Coll., Bristol. Student of Institute of Chemistry, Member Inst. Brit. F. British. Brosley House, Coalpit Heath, near Bristol. Foundry Chemist. *Signed by :* C. L. Hewett, C. Harris, C. G. M. de Worms.

‡**Dent, Frederick James,** D.Sc. British. 142, Stainbeck Lane, Leeds, 7. Joint Assistant Director, The Gas Research Board. *Signed by :* E. W. Claydon, H. J. Hodsman, R. E. Jones.

(a) **Depper, Eric George.** British. 58, Dene Court Road, Olton, Birmingham, 27. Laboratory Assistant. *Signed by :* J. G. Weighall, A. A. K. Whitehouse, E. G. K. Pritchett.

†**Diamond, William Edward de Boutillier,** M.A. and Ph.D. (Cantab.), F.I.C. English. British Plastics Federation, 47/48, Piccadilly, W. 1. General Manager. *Signed by :* F. M. Potter, George Dring, P. C. L. Thorne.

†**Dorling, John William,** B.Sc. and Ph.D. (Lond.), A.I.C. British. Haytor, 13, Uxbridge Road, Slough. Research Chemist, I.C.I. Paints, Ltd. *Signed by :* Norman Wm. Hanson, John R. Hosking, F. W. Hobden.

†**Dryden, Ian Gordon Cumming,** B.Sc. (Lond.), A.I.C., A.M.I.Chem.E. British. 7, De Vere Cottages, De Vere Gardens, W. 8. Chemical Engineer and Research Chemist, British Coal Utilisation Research Association. *Signed by :* Gordon H. Thomson, W. J. Kramers, D. H. Bangham.

†**Eastland, Cyril Jack,** F.I.C., Ph.C. British. 21, Park Road, N.W. 1. Chief Research Chemist, Allen & Hanburys, Ltd. *Signed by :* C. W. Maplethorpe, Thomas McLachlan, A. Krajkeman.

†**Edwards, Karl Basil,** B.Sc. and Ph.D. (Lond.), F.I.C. British. Ormond Laboratories, 12, Whidborne Street, W.C. 1. Technical and Chemical Consultant. *Signed by :* C. Kear Colwell, T. W. Jones, Wm. Cullen.

†**Edwards, William Albert,** M.A. (Cantab.), A.I.C. British. 27, Southam Road, Hall Green, Birmingham, 28. Managing Director of Drynamels, Ltd. *Signed by :* Leonard G. Gabriel, L. A. Jordan, S. H. Bell.

***Elton, George Alfred Hugh,** Inter. B.Sc. (Lond.). British. 140, Lilleshall Road, Morden. Chief Laboratory Assistant and Demonstrator, Kingston Technical College, Science Department. *Signed by :* A. R. Cluer, Leslie G. Luker, R. Drew.

Evans, Richard Bromley, B.Sc.Hons. (Birm.), F.I.C. British. 117, Bratt Street, West Bromwich. Research Chemist. *Signed by :* D. W. Parkes, G. W. Usherwood, M. E. D. Windridge.

†**Evans, Ronald.** British. 498, Cowbridge Road, Ely, Cardiff. Manager of Messrs. Kernick & Son, Ltd. *Signed by :* A. S. Minton, D. Owen Davies, H. John Williams.

†**Fitzgerald, Leslie Harold,** B.Sc.Hons. (Lond.), A.I.C. English. 95, Montrose Avenue, Whitton, Twickenham. Analytical and Research Chemist, J. Lyons & Co., Ltd. *Signed by :* Charles H. F. Fuller, R. F. Barrow, F. J. Turner.

Fletcher, Henry John. British. 354, West Barnes Lane, Motspur Park. Student of Chemistry. *Signed by :* Leslie G. Luker, A. R. Cluer, K. Wallersteiner.

(d) **Gentry, Charles Harold Raymond,** B.Sc.Hons. (Lond.), A.I.C. British. Redcot, 40, Severn Road, Clacton-on-Sea. Analytical Chemist. *Signed by :* G. Kohnstam, A. L. G. Rees, S. L. Martin.

†**Gidvani, Bhawan Showkiram,** B.Sc. (Bombay), Ph.D. (Lond.), D.I.C., F.I.C., A.M.I.Chem.E. British. 79, Grassmarket, Edinburgh, 1. Acting Director and Chief Chemist, London Shellac Research Bureau. *Signed by :* Robert G. M. Dakers, Hugh B. Nisbet, James Sandilands.

†**Golombok, Ezra,** B.Sc. (Glas.), A.R.T.C., A.I.C. British. 2, Kingsbrae Avenue, Glasgow, S. 4. Research Assistant. *Signed by :* Henry G. A. Anderson, A. B. Crawford, F. Rumford.

‡**Goodrich, Roy William,** B.Sc. (Lond.), A.I.C. British. 13, Epperstone Road, West Bridgford. Works Chemist. *Signed by :* John R. Jarratt, D. O. Jordan, E. O'F. Walsh.

†**Grant, Julius,** B.Sc.Hons., M.Sc. and Ph.D. (Lond.), F.I.C. British. New Bury Paper Mills, Ltd., Gigg Lane, Bury. Chief General Manager of Paper Mills. *Signed by :* J. R. Nicholls, F. S. Aumonier, C. E. Barton.

(c) **Gunstone, Frank Denby,** B.Sc.Hons. (L'pool). British. Vine Cottage, Church Road, Halewood, Nr. Liverpool. Assistant Chemist to Colonial Products Research Council. *Signed by :* T. P. Hilditch, A. McGookin, M. L. Meara.

†**Hall, Reginald Stanley Baybutt,** B.Sc. (Lond.), A.I.C. British. 66, Mount Drive, Urmston. Textile Research Chemist. *Signed by :* Archibald J. Hall, F. C. Wood, N. F. Crowder.

(c) **Hirsch, Stephen Herbert Alois,** B.Sc. (Glas.). Cuban. 4, Clive Court, W. 9. Research Chemist, at present serving with H.M. Forces. *Signed by :* W. M. Cumming, Henry G. A. Anderson, F. Rumford.

‡**Hitchcock, Howard Charles,** B.Sc.Hons. (Lond.). British. Middleton Lodge, 31, Lansdowne Road, Tottenham, N. 17. Works Manager, Burt, Boulton & Haywood, Ltd., and Associated Co. *Signed by :* J. G. King, C. Montague Smith, Herbert E. Nickels.

Hoch, Hans, Ph.D. (Vienna). Austrian. Hale Clinical Laboratory, London Hospital, E. 1. Research Work. *Signed by :* John Marrack, C. J. O. R. Morris, Edna M. F. Roe.

‡**Horner, George,** M.Sc. (Lond.), D.I.C. British. 64, Kingfield Road, Sheffield, 11. Works Chemist. *Signed by :* H. W. Bywaters, W. B. Adam, Denis Dickinson.

†**Horrocks, Robert Heaton,** B.Sc. (Lond.), A.I.C. British. 1165, London Road, Alvaston, Derby. Analytical Chemist. *Signed by :* G. Malcolm Dyson, N. A. Hurt, H. Webber.

Hruska, Ladislav, Dipl.Ing. (Praha). Czechoslovak. 134, Piccadilly, W. 1. Scientific Research under Czechoslovak Government. *Signed by :* F. A. Freeth, E. G. Cox, D. M. Newitt.

‡**Humphreys, Iorwerth Price,** M.P.S. (Bangor and Nottingham Universities). British. Bodifyr, Tregarth, Bangor. Assistant in Operational Research, Fighter Command. *Signed by :* Henry H. Butterfield, G. R. Ramage, Dacre C. Leicester.

†**Hutt, Ronald,** B.Sc. (Lond.), A.I.C. British. Pwllypant House, near Caerphilly. Research Chemist to a Collieries Co. *Signed by :* W. Idris Jones, David P. Evans, N. T. Simmons.

†**Johnson, Alfred Sydney,** B.Sc. (Lond.), A.I.C. British. 1061, Warwick Road, Acocks Green, Birmingham, 27. Analytical Chemist. *Signed by :* G. H. Edwards, Chas. A. Robb, E. G. K. Pritchett.

Jones, Norman Richard, B.Sc.Hons. (Lond.). British. Seascale. Analytical Chemist. *Signed by :* Albert Taylor, P. F. Ward, Lionel L. Hantman.

†**Kahan, Ralph Sidney,** B.Sc. (Lond.), A.I.C. British. Derby Technical College, Normanton Road, Derby. Lecturer. *Signed by :* A. J. Ewins, G. Newbery, R. Leslie Collett.

†**Kennedy, Charles,** A.M.C.T., A.I.C. British. 33, Princess Road, Urmston. Power Station Chemist. *Signed by :* F. Holme, Norman F. Crowder, A. J. Hall.

†**Kent, Paul Welberry,** B.Sc.Hons. (Birm.). British. 2, Oversley Road, Wheatley, Doncaster. Research Assistant. *Signed by :* Stanley Peat, W. N. Haworth, F. Smith.

†**Kieser, Margaret Elizabeth,** B.Sc. (Bristol). British. 42, Ravenswood Road, Bristol, 6. Research Chemist. *Signed by :* H. Martin, A. Pollard, T. Malkin.

(b) **Kletz, Trevor Asher.** British. 16, Kelvin Grove, Newton, Chester. Student at Liverpool University. *Signed by :* A. McGookin, R. A. Morton, R. O. Griffith.

†**Knott, Edward Bowes,** B.Sc. (Birm.), D.Phil. (Frankfurt-a-M.), F.I.C. British. 101, Elm Drive, North Harrow. Research Chemist, Messrs. Kodak, Ltd. *Signed by :* H. Baines, F. M. Hamer, R. Leslie Collett.

***Lind, Robert,** B.Sc.Hons. (St. Andrews). British. Schoolhouse, Murroes, Dundee. Research Student (Chemistry), University College, Dundee. *Signed by :* John D. M. Ross, Isobel A. Smith, Robert Roger, E. M. Luis.

†**Little, Andrew James,** A.R.T.C., A.I.C. British. Barnby House, Barnby Moor. Chemist in factory. *Signed by :* J. Nicholson, L. A. Downing, H. C. Gull.

‡**Lipton, Bernard,** F.R.Met.Soc., F.I.A.C., M.Inst.B.E. British. Chairman and Managing Director, Germstroyd Products, Ltd., and Industrial Humidifiero, Ltd. *Signed by :* C. Edwards, F. P. Dunn, C. W. Davies.

†**Looney, Reginald Frederick,** A.I.C. British. 149, King's Road, Bebington, Wirral. Research Chemist. *Signed by :* R. J. Munro, G. P. Gibson, E. H. Shepherd.

†**Lophandvala, Kasamali Kaderali,** B.Sc. (Bombay), B.Pharm. (Lond.), Ph.C., A.I.C. Indian. 6, Lion Brow, Blackley, Manchester 9. Works, Analytical and Research Chemist. *Signed by :* G. Lawson, A. F. Mason, R. Leslie Collett.

***McLaren, Alexander,** B.Sc.Hons. (Aberd.). British. 14, Stevenson Road, Kilwinning. Superintendent Chemist. *Signed by :* T. Harold Reade, H. W. Melville, R. B. Strathdee.

***Majury, Trevor Gault,** B.Sc.Hons. (Q.U.B.). British. 28, Maryville Park, Belfast. Junior Assistant Chemist at the Linen Industry Research Association. *Signed by :* R. W. Kinkead, Henry Wren, A. W. Stewart.

Mandelik, Bernard George, D.Sc. (Prague). Czechoslovak. 18, Windsor Court, Jubilee Place, S.W. 3. Scientific Research under Czechoslovak Government. *Signed by :* F. A. Freeth, E. G. Cox, D. M. Newitt.

***Mitchell, Agnes Grant,** B.Sc.Hons. (St. Andrews). British. Upper Greens, Auchtermuchty. Assistant in Chemistry Department, University College, Dundee. *Signed by :* John D. M. Ross, Isobel A. Smith, Robert Roger, E. M. Luis.

(c) **Page, Francis Michael,** Nat. Sci. Tripos Pt. 1 (Cantab.). British. 10, Water Street, Newcastle. Chemist. *Signed by :* S. J. Watson, K. J. Sinclair, John C. McGowan.

Panzner, François, D.Sc. (Brno). Czechoslovak. 45e, Maresfield Gardens, N.W. 3. Scientific Research under Czech Government. *Signed by :* F. A. Freeth, E. G. Cox, D. M. Newitt.

(d) **Patterson, Stella Jean.** I have passed the A.I.C. examination, and will be elected an Associate when I am 21 years of age. British. 46, Chatsworth Gardens, Harrow. Chemist. *Signed by :* B. Arthur Hems, F. A. Robinson, E. M. Gibbs.

†**Powell, Donald Bernard,** B.Sc.Hons. (Lond.), A.I.C. British. St. Louis, 27, Somerset Gardens, Teddington. Research Chemist. *Signed by :* L. A. Jordan, C. W. Davies, A. Houston.

‡**Pressley, Thomas Athol,** B.Sc. (N.Z.). British. c/o British Leather Manufacturers' Research Association, 1—6, Nelson Square, S.E. 1. Analytical and Research Chemist. *Signed by :* Dorothy Jordan Lloyd, R. Faraday Innes, J. H. Bowes.

†**Read, Malcolm George,** B.Sc. (Lond.), A.I.C. British. 73, Laburnum Road, Hayes. Analytical Chemist. *Signed by :* D. C. Garratt, H. C. Macfarlane, D. J. Patient.

†**Richmond, James Thomson,** M.A. and B.Sc.Hons. (Glas.), F.I.C. British. B. Laporte, Ltd., Luton. Research and Development Chemist. *Signed by :* W. H. Hadley, W. S. Wood, R. Leslie Collett.

†**Rosenberg, Wolfe,** B.Sc. (Lond.), A.I.C. British. 13, Varo Terrace, Stockton-on-Tees. Assistant Chemist. *Signed by :* M. P. Applebey. A. J. Prince, J. G. M. Bremner.

‡**Rosenbusch, Richard,** D.Phil. (Göttingen). German. 17, Fog Lane, Didsbury, Manchester, 20. Research Chemist. *Signed by :* A. R. Todd, A. E. Gillam, A. Wolf.

†**Rushman, Douglas Frederick,** Ph.D. (Lond.), A.R.C.S., A.I.C. British. 32, Beddington Gardens, Wallington. Scientific Research, chiefly on Physico-chemical topics. *Signed by :* H. J. T. Ellingham, J. A. Kitchener, A. L. G. Rees.

***Savage, Peter Alan,** B.Sc.Hons. (Lond.). British. 360, Devizes Road, Salisbury. *Signed by :* D. O. Jordan, John C. Roberts, G. R. Barker.

Scott, William Errington, M.Sc., and Ph.D. (Dun.), F.I.C. British. The Technical College, Acton, W. 3. Head of the Science Department, Acton Technical College. *Signed by :* T. J. Morrison, Gordon E. Watts, P. Haas.

(c) **Shaw, Michael,** B.Sc.Hons. (Lond.). Polish. 16, Calderfield Road, Liverpool, 18. Analytical Chemist. *Signed by :* Harold H. Hutt, Charles Loudon, Basil H. Chorley.

‡**Smith, Alexander Martin,** Ph.D. and D.Sc. (Edin.), A.H.W.C., F.R.S.E., F.I.C. British. 13, George Square, Edinburgh, 8. Head of Chemistry Department, Edinburgh and East of Scotland College of Agriculture, and University Lecturer in Agricultural and Forest Chemistry. *Signed by :* E. G. V. Percival, Neil Campbell, T. R. Bolam.

†**Smith, Wilfred,** B.Sc. (Lond.), F.I.C. British. Analytical Department, Allen and Hanburys, Ltd., Ware. Chief Analyst. *Signed by :* Norman Evers, A. L. Bacharach, C. W. Maplethorpe.

‡**Spence, Francis Derek.** British. National Buildings, St. Mary's Parsonage, Manchester. Chairman and Managing Director of Peter Spence & Sons, Ltd. *Signed by :* A. W. Cowburn, W. Cule Davies, J. Chatt.

†**Sundralingham, Alvappillai,** B.Sc. and Ph.D. (Lond.), A.I.C., five years Research experience. British (Ceylon). 48, Tewin Road, Welwyn Garden City. Research Chemist with the British Rubber Producers' Research Association. *Signed by :* D. A. Sutton, G. F. Bloomfield, J. I. Cunneen.

†**Sweeny, Herbert,** A.I.C. British. 5, Bolton Road East, Bebington. Research Chemist. *Signed by :* G. P. Gibson, R. J. Munro, E. H. Shepherd.

†**Thompson, Reginald Harold,** B.Sc. (Lond.), A.R.C.S., D.I.C., A.I.C. English. Handside Farm House, Handside Lane, Welwyn Garden City. Works Chemist and Analyst. *Signed by :* A. R. Bonar, R. F. Naylor, C. Edwd. Sage.

†**Tyrell, Leslie Walter Mably,** B.Sc.Hons. (Lond.), A.I.C. British. Cambrian House, Llandaff North, Cardiff. At present serving with the Royal Air Force. *Signed by :* David P. Evans, H. B. Watson, J. Ormston.

†**Underwood, Arthur Joseph Victor,** D.Sc. (Leeds), M.I.Chem.E., A.M.I.Mech.E., F.I.C., F.Inst.F., F.Inst.Pet. British. 38, Victoria Street, S.W. 1. Consulting Chemical Engineer. *Signed by :* C. S. Garland, T. W. Jones, H. E. Cox.

†**Vaughan, John,** B.Sc.Hons. (Wales), A.I.C. British. 13, Trafalgar Place, Brynmill, Swansea. Research Chemist. *Signed by :* Robert Robertson, David T. Lewis, L. E. Hinkel.

Walker, Charles, M.Sc. (Manc.), A.I.C. British. 4, Elvaston Place, Queen's Gate, S.W. 7. Manager of "Sandoz Products." *Signed by :* H. Stevenson, D. Ward, A. E. Gillam, R. E. Stuckey, J. B. Firth.

†**Walker, John Geoffrey,** Assoc.M.C.T., A.I.C. British. 2a, Oakdene Avenue, Darlington. Technical Assistant. *Signed by :* G. C. C. Gell, A. G. Francis, R. Leslie Collett.

Walters, Clifford Leslie, B.Sc.Hons. (Lond.). British. Carleton, 89, Stanwell Road, Ashford, Staines. Chemist at Oil Research Station. *Signed by :* S. F. Birch, A. E. Dunstan, C. K. Ingold.

†**Wathen, George Leslie,** B.Sc. (Lond.). British. 24, Main Street, Halton, Runcorn. Analytical Chemist. *Signed by :* R. A. E. Galley, C. C. Addison, J. Agnew.

Whalley, Clifford, B.Sc.Hons. (Sheffield). British. 30, Stowe Avenue, Millhouses, Sheffield, 7. Micro-chemical Analyst. *Signed by :* R. D. Haworth, Brynmor Jones, Alex. H. Lamberton, J. C. Speakman, E. Gertrude Turner.

†**Wood, James William,** M.Sc.Tech. (Manc.), A.I.C. British. 23, Chestnut Avenue, Headlingley, Leeds, 6. Research Chemist to Joint Research Committee of Gas Research Board. *Signed by :* H. J. Hodsman, H. Burton, D. T. A. Townend.

†**Woolman, Aubrey Maurice,** B.Sc. and Ph.D. (Lond.), A.R.C.S., D.I.C., A.I.C. British. 28, Parkstone Avenue, Hornchurch. Research Chemist in the Laboratories of Messrs. May & Baker Ltd., Dagenham. *Signed by :* C. Ewart Stickings, William Sabel, D. D. Libman.

†**Young, Robert Lees,** B.Sc. (Lond.), A.H.W.C., A.I.C. British. c/o The Associated Lothian Coalowners, Ltd., 17, Constitution Street, Leith, Edinburgh, 6. Analytical Chemist. *Signed by :* Robert G. M. Dakers, Hugh B. Nisbet, James Sandilands.

***Youngson, George William,** B.Sc.Hons. (Aberd.). British. 14, Stevenston Road, Kilwinning. Superintendent Chemist. *Signed by :* T. Harold Reade, H. W. Melville, R. B. Strathdee.

(d) **Yuille, George Bowman,** B.Sc. (Edin.). British. 47, Inverleith Row, Edinburgh, 4. Works Chemist. *Signed by :* James Kendall, E. G. V. Percival, Christina C. Miller.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Sherndal, Alfred Einar,** B.Sc. and Dr.Sc.(Hon.) (St. Laurence Univ.), Ph.D. (Munich). Research and Manufacturer of Medicinal Chemicals since 1917. United States. Old Chatham, N.Y. Vice-President and Plant Manager, Winthrop Chemical Co., Inc. *Signed by :* Foster Dee Snell.

* Reduced annual subscription.
† Three-body.
‡ Two-body.

(a) Student Membership two-body.
(b) Student Membership three-body.
(c) Junior Membership two-body.
(d) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between December 16th, 1943 and January 20th, 1944. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"3 : 4-Benzfluorenones. Part I. The effect of groups on their formation and their fission with alkali." By F. G. BADDAR and M. GINDY.

"The properties of freshly formed surfaces. Part II. Critical velocity and gravity effect in vibrating jets." By C. C. ADDISON.

"The decomposition of diazotised aniline at different pH values. Further observations on the diazo-coupling reaction." By H. H. HODGSON and E. MARSDEN.

"1 : 6-Diamino-2 : 3 : 4 : 5-dimethylene mannitol." By W. N. HAWORTH, R. L. HEATH, and L. F. WIGGINS.

"The union of gaseous oxygen with methyl oleate at 20° and 120° C." By D. ATHERTON and T. P. HILDITCH.

"Delphinium alkaloids. II. Ajacine." By J. A. GOODSON.

"Lactones of mannosaccharic acid. Part I. 2 : 5-Dimethyl-Δ^4-mannosaccharolactone 1-methyl ester, an analogue of ascorbic acid." By W. N. HAWORTH, (MISS) D. HESLOP, (MISS) E. SALT, and F. SMITH.

"Synthesis of the bismethylamides of 2-hydroxy-3-methoxy-*d*- and *l*-erythrosuccinic acid." By (MISS) D. HESLOP, (MISS) E. SALT, and F. SMITH.

"Synthesis of uronic acids. Part II. 2 : 3 : 4-Trimethyl derivatives of mannuronic, glucuronic, and galacturonic acid." By F. SMITH, M. STACEY, and P. I. WILSON.

"Triacetone dialcohol and its dehydration products." By E. E. CONNOLLY.

"The elimination of bromine from aqueous solutions of phenylbromoacetic acid." By (the late) H. M. DAWSON, W. R. BULCRAIG, and G. R. SMITH.

"A laboratory timing clock." By G. F. SMITH.

"Synthetic analgesics. I. Synthesis of basic benzofurane derivatives and certain 4-phenylpiperidine compounds." By F. BERGEL, J. W. HAWORTH, A. L. MORRISON, and H. RINDERKNECHT.

"Synthetic analgesics. II. A new synthesis of pethidine and similar compounds." By F. BERGEL, A. L. MORRISON, and H. RINDERKNECHT.

"Synthetic analgesics. III. The action of hydrogen halides on ethers of $\alpha : \alpha$-bis-(β'-hydroxyethyl)-phenylacetonitrile." By F. BERGEL, A. L. MORRISON, and H. RINDERKNECHT.

"Synthetic analgesics. IV. Synthesis of 3-substituted piperidines and pyrrolidines." By F. BERGEL, N. C. HINDLEY, A. L. MORRISON, and H. RINDERKNECHT.

"3 : 6-Anhydrogalactose. Part II. 2-Methyl- and 4-methyl-3 : 6-anhydro-α-methyl-galactopyranoside." By (MRS.) P. A. RAO and F. SMITH.

"Long-chain acids containing a quaternary carbon atom. Part III." By W. H. HOOK and SIR ROBERT ROBINSON.

"The isolation of euphol and α-euphorbol from euphorbium." By G. T. NEWBOLD and F. S. SPRING.

"Sulphanilamide derivatives." By F. S. SPRING and E. H. P. YOUNG.

"Hydroanthracenes and hydrophenanthrenes. Part II." J. W. COOK, (MISS) N. A. MCGINNIS, and STOTHERD MITCHELL.

"A method of nuclear-methylation of phenolic substances." By (MISS) M. G. BARCLAY, A. BURAWOY, and G. H. THOMSON.

"The extent of dissociation of salts in water. Part IX. Dissociation minima." By C. W. DAVIES.

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February, 1944

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS.

IN LONDON (Burlington House).

Thursday, March 16th, 1944, at 2.30 p.m.

Ninth Pedler Lecture on " Newer Knowledge of the Biochemistry of the Thyroid Gland," by Dr. C. R. Harington, M.A., F.R.S.

Thursday, April 20th, 1944.

Annual General Meeting and the **Presidential Address.** (Further particulars will be announced.)

Wednesday, March 15th, 1944, at 2.30 p.m.

Lecture on " The *X*-ray Examination of Plastics," by Dr. W. T. Astbury, to be held at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C. 1. Meeting of the Plastics Group of the Society of Chemical Industry, to which Fellows are invited.

OUTSIDE LONDON.

MANCHESTER.

Friday, March 24th, 1944, at 5.30 p.m.

Ninth Pedler Lecture on " Newer Knowledge of the Biochemistry of the Thyroid Gland," by Dr. C. R. Harington, M.A., F.R.S. To be held in the Chemistry Lecture Theatre of the University.

NEWCASTLE AND DURHAM.

Friday, March 17th, 1944, at 6 p.m.

Tilden Lecture on " Some Aspects of the Organic Chemistry of Phosphorus and Arsenic," by Dr. F. G. Mann, F.I.C. Official Meeting of the Society. To be held at King's College, Newcastle-upon-Tyne.

NOTTINGHAM.

Tuesday, March 28th, 1944, at 6.30 p.m.

Lecture on " Some Aspects of the Organic Chemistry of Phosphorus and Arsenic," by Dr. F. G. Mann, F.I.C. To be held in the Chemistry Lecture Theatre of University College, Shakespeare Street.

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PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, February 17th, 1944, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Scientific Meeting of January 20th, 1944, which had been circulated, were taken as read and were confirmed and signed.

U.S.S.R. SOCIETY FOR CULTURAL RELATIONS WITH FOREIGN COUNTRIES, MOSCOW.

The PRESIDENT announced that the following message had been received from the U.S.S.R. Society for Cultural Relations with Foreign Countries, Moscow:

" Hearty New Year Greetings
" For the triumph of our common cause
" For final defeat of Hitlerism
" For fruitful post-war cooperation."

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: E. W. Jackson, Miss Rosemary D. Simon, H. W. Pratt, M. N. Strachan, Gerald H. Hargreaves, B. C. L. Weedon, R. Bentley, P. Popper, U. Weigert, R. J. C. Harris, W. C. J. Ross, J. A. Elvidge, W. Tebrich, W. R. Wragg, D. Mess, R. Castle, Miss Joan Meakin, L. G. L. Unstead-Joss, Miss Daphne P. McKay-Ohm, Miss D. M. Hall, H. J. Kahn, T. Douglas Whittet, F. E. Rymill.

LECTURE.

After a brief introduction, the PRESIDENT called on Dr. A. J. Ewins, F.R.S., to deliver his Lecture entitled " Chemotherapy in Tropical Medicine."

At the conclusion of the Lecture, a vote of thanks to the Lecturer, proposed by Sir Robert Pickard, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Frederick Daniel Chattaway	1894	January 26th, 1944.
Neville Mower	1943	November 23rd, 1943.
Thomas Linton Daniel Porter	1904	November 16th, 1943.
James McConnell Sanders	1900	February 4th, 1944.
Alfred Stansfield	1895	February 5th, 1944.
John Henry Walker	1925	January 14th, 1944.
William John Willis	1925	October 29th, 1943.
Ernest Ronald Withell	1941	August 8th, 1942.
James Young	1894	December 2nd, 1943.

CONGRATULATIONS.

The congratulations of the Council have been conveyed to the following Fellows who have completed 60 and 50 years of Fellowship:

60 years of Fellowship.

	Elected.
Edgar Francis Smith	February 21st, 1884.

50 years of Fellowship.

William Rowland Bird	February 15th, 1894.
Chuni Lal Bose	" "
Robert Leonard Jenks	" "

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Messrs. P. K. Dutt and G. W. Young for contributions to the Publications Fund and to Dr. A. F. Campbell, Mr. O. L. Hughes, Mr. D. G. Kerr, Imperial Chemical Industries, Ltd., and the Executors of the late Professor J. Young for presenting publications of the Society.

RESEARCH GRANT.

A grant of £15 has been made to Mr. G. E. Styan (Bradford Technical College) for a research on "Kinetics of base exchange reactions using crystalline synthetic zoolites."

NOMINATIONS FOR VACANT PLACES ON THE COUNCIL.

The following is the list of the nominations for the new Council:

President. (*One vacancy.*) PROFESSOR W. N. HAWORTH.

Vice-Presidents who have not filled the office of President. (*One vacancy.*)

EDMUND JOHN BOWEN. (Oxford.)

Elected Ordinary Members of Council.

Constituency I. S.E. England. (*Three vacancies.*)

MICHAEL PHILIP BALFE.	(Harpenden.)
JAMES STEWART COOK.	(Windsor.)
STANLEY HUGH HARPER.	(Southampton.)
EWART RAY HERBERT JONES.	(London.)
JOHN LANGHORNE SWEETEN.	(London.)
WILLIAM FRANCIS KENRICK WYNNE-JONES.	(Farnborough.)

Constituency IV. N.E. England. (*Two vacancies.*)

MALCOLM PERCIVAL APPLEBEY.	(Yarm-on-Tees.)
LOUIS HUNTER.	(Leicester.)
BRYNMOR JONES.	(Sheffield.)

PUBLICATIONS FOR JANUARY.

Owing to depletion of staff and the immense amount of work involved in carrying out the sorting, it was necessary to send Fellows the same publications in January 1944 as they received in December 1943. The necessary adjustments will be made when dispatching the publications for February.

The Council would much appreciate it if Fellows would kindly return to the Society any publications for January 1944 which they have received in excess of their requirements.

FELLOWSHIP.

The following 92 candidates were elected Fellows of the Society on February 17th, 1944:

John Aldred.
Rudolf Martin Anker.
William Henry Beck.
William Rhys Graham Bell.
Arnold Benson.
John Dyson Blakeley.
Frank Monkman Bolton.
Edward Teggin Borrows.
Joyce Winifred Ethel Brading.
Bruno Breyer.
George Ludovic Buchanan.
Alfred Richard Burkin.
Jack Ronald William Cheatle.
Kenneth Charles Cooper.
Frederick James Dent.
Eric George Depper.
William Edward de Boutillier Diamond.
John William Dorling.
Ian Gordon Cumming Dryden.
Cyril Jack Eastland.

Karl Basil Edwards.
William Albert Edwards.
George Alfred Hugh Elton.
Richard Bromley Evans.
Ronald Evans.
Leslie Harold Fitzgerald.
Henry John Fletcher.
Charles Harold Raymond Gentry.
Bhawan Showkiram Gidvani.
Ezra Golombok.
Roy William Goodrich.
Julius Grant.
Frank Denby Gunstone.
Reginald Stanley Baybutt Hall.
Stephen Herbert Alois Hirsch.
Howard Charles Hitchcock.
Hans Hoch.
George Horner.
Robert Heaton Horrocks.
Ladislav Hruska.
Iorwerth Price Humphreys.
Ronald Hutt.
Alfred Sydney Johnson.
Norman Richard Jones.
Ralph Sidney Kahan.
Charles Kennedy.
Paul Welberry Kent.
Margaret Elizabeth Kieser.
Trevor Asher Kletz.
Edward Bowes Knott.
Robert Lind.
Andrew James Little.
Bernard Lipton.
Reginald Frederick Looney.
Kasamali Kaderali Lophandvala.
Alexander McLaren.
Trevor Gault Majury.
Bernard George Mandelik.
Agnes Grant Mitchell.
Francis Michael Page.
Francois Panzner.
Stella Jean Patterson.
Donald Bernard Powell.
Thomas Athol Pressley.
Malcolm George Read.
James Thomson Richmond.
Wolfe Rosenberg.
Richard Rosenbusch.
Douglas Frederick Rushman.
Peter Alan Savage.
William Errington Scott.
Michael Shaw.
Alfred Einar Sherndal.
Alexander Martin Smith.
Wilfred Smith.
Francis Derek Spence.
Alvappillai Sundralingham.
Herbert Sweeny.
Reginald Harold Thompson.
Leslie Walter Mably Tyrell.
Arthur Joseph Victor Underwood.
John Vaughan.
Charles Walker.
John Geoffrey Walker.
Clifford Leslie Walters.
George Leslie Wathen.
Clifford Whalley.
James William Wood.
Aubrey Maurice Woodman.
Robert Lees Young.
George William Youngson.
George Bowman Yuille.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, March 20th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Alexander, Edward Peter James, B.Sc. (Lond.), A.R.C.S. British. 85, Manor Lane, Sunbury-on-Thames, Middlesex. Assistant Chemist at Anglo-Iranian Oil Company, Ltd., Research Station. *Signed by :* A. A. Eldridge, H. V. A. Briscoe, H. J. T. Ellingham.

Ames, William Melville, M.A. and D.Sc. (Edin.), F.I.C. British. c/o Messrs. J. & G. Cox, Ltd., Gorgie Mills, Edinburgh, 11. Works Manager. *Signed by :* Hugh B. Nisbet, E. G. V. Percival, R. Leslie Collett.

†**Anderson, James Henry,** A.I.C. British. Chief Chemist to Ocean Salts (Products), Ltd. *Signed by :* W. H. Brindley, F. P. Dunn, C. Diamond.

(d)**Ashley, Michael George,** Ph.C., M.P.S. Student of the Royal Institute of Chemistry (Registered). British. 18, St. Annes Road, Leeds, 6. Pharmaceutical Chemist in charge of Medical Supplies to County Hospitals and Institutions under the County Council of the West Riding and Yorkshire. *Signed by :* F. Jones, J. W. Gailer, James A. Hamilton.

Atkinson, Charles Maitland, B.Sc.Hons. (Dun.). British. 18, Woodside Grove, Tantobie, Newcastle-on-Tyne. Chemist. *Signed by :* C. W. Gibby, G. H. Christie, J. C. E. Simpson.

(c)**Baldit, Gerald Lucien,** Inter B.Sc. British. 33, Blairderry Road, Streatham Hill, S.W. 2. Assistant Research Chemist. *Signed by :* E. de Barry Barnett, F. H. Lowe, J. C. Crocker.

Beenstock, David, B.Sc.Tech. (Manc.). British. "Springdene," Springfield Lane, Irlam, Manchester. Chemist. *Signed by :* John K. Wood, O. Rhys Howells, A. F. H. Ward.

†**Beese, Dennis Clifford,** F.I.C. English. c/o Linoleum Manufacturing Co., Ltd., Staines. Assistant Works Manager. *Signed by :* Henry J. S. Sands, E. de Barry Barnett, G. G. Pullen.

Benzie, Robert John, B.Sc.Hons. (Lond.), A.H.W.C., A.I.C. British. c/o 36, Reginald Road, Chaddesden, Derby. Works Chemist. *Signed by :* Robert G. M. Dakers, James Sandilands, Hugh B. Nisbet.

Billington, Edward Eric, B.Sc. (L'pool), M.Sc. (McGill), F.I.C. British. 18, Hoscote Park, West Kirby, Wirral Managing Director, Messrs. Wright Crossley & Co., Ltd., Spice Millers. Messrs. Edward Billington & Son, Ltd., Cattle Food Manufacturers, etc. *Signed by :* W. H. Roberts, C. F. Turner, E. Gabriel Jones, R. Leslie Collett.

†**Bradwell, Donald,** A.I.C. British. 4, North Lodge Terrace, Darlington. *Signed by :* C. Fuller, C. S. Harper, R. Leslie Collett.

(d)**Bristow, Frederick Jack.** British. 58, Herlingham Road, Fulham, S.W. 6. Assistant Chemist. *Signed by :* W. Davey, W. J. Clifford, M. Barent.

Broadfield, Ernest Richard, B.Sc. (Lond.). British. 14, Langford Grove, Harborne, Birmingham, 17. Research Metallurgist. *Signed by :* R. J. Doyle, William G. Dickson, J. Cooper Duff.

Bruck, Thomas Andrew. Hungarian. 5, High Path, Wellington, Som. Student at King's College, London. Studying for B.Sc. Special Honours Degree in Chemistry. *Signed by :* G. M. Bennett, Gwyn Williams, J. C. D. Brand.

(d)**Burroughs, Leonard Frederick,** B.Sc.Agric.(Hons.) (Reading). British. "Belvedere," Long Ashton, Bristol. Chemist (Cider, Fruit and Vegetable Products). *Signed by :* Alfred Pollard, H. Martin, T. Wallace.

†**Callow, Alan Edward,** B.Sc. and Ph.D. (L'pool), A.I.C. British. 11, Hilton Crescent, Hilton Park, Prestwich, Nr. Manchester. Deputy Process Manager—Magnesium Elektron, Ltd. *Signed by :* E. Mitchell Learmonth, A. L. Hock, G. H. J. Neville.

Card, Robert Stephen, M.P.S. British. 10, Hill Crest Avenue, Wigan Road, Leigh. Works Chemist. *Signed by :* L. J. Burrage, L. A. Haddock, O. D. Mooney.

Charlton, Maurice George, B.Sc. (Lond.), A.R.C.S. British. 12, Briset Road, Eltham, S.E. 9. Research Chemist (Ministry of Supply). *Signed by :* S. N. Farmer, F. B. Lewis, A. Butler.

Childs, Clifford George, M.Sc. (Lond.). British. 23, Queens Drive, Heaton Mersey, Manchester. Research Chemist (Dyestuffs and Intermediates). *Signed by :* D. S. Stephens, E. Spencer, N. Stevenson.

Claret, Paul Arthur, B.Sc.Hons. (Lond.), A.I.C. British. 17, Vyvyan Terrace, Clifton, Bristol, 8. *Signed by :* E. B. Maxted, J. K. N. Jones, T. Malkin.

Coleman, John Stanley, B.Sc. (Lond.), B.Pharm. (Lond.). Pharmaceutical Chemist. British. 25, Vermont Road, Sutton, Surrey. Chemist engaged on Analytical Control and Preparation of Chemical and Natural Products of Medicinal importance. *Signed by :* F. Hartley, Charles Simons, Wilfred H. Linnell.

Coles, Kenneth Frank, A.R.C.S., B.Sc. (Lond.), D.I.C. (Chemical Engineering). British. 59, Sunnyhill Road, Hemel Hempstead. Research Chemist. *Signed by :* G. T. Kennedy, K. C. Bryant, T. K. Hanson.

Cooper, Leslie Alfred George, Inter B.Sc. British. 80, Meadway, Ilford. Engineer (dealing mainly with synthetic rubber and light alloys). *Signed by :* David H. Widocks, John A. White, D. J. G. Ives.

(d)**Cornish, Eric Haydn.** English. 10, Whitehall Gardens, Chingford, E. 4. Laboratory Assistant. *Signed by :* Ernest A. Rudge, Ralph F. Bromley, F. L. Allen.

Cottrell, Tom Leadbetter, B.Sc.Hons. (Edin.). British. 86, Lasswade Road, Edinburgh, 9. Chemist, Research Division, I.C.I., Ltd. *Signed by :* E. G. V. Percival, Mowbray Ritchie, T. R. Bolam, Neil Campbell.

†**Cowdrey, William Arthur,** B.Sc. and Ph.D. (Lond.), A.I.C. British. Physical Chemistry Laboratories, South Parks Road, Oxford. Research Chemist employed by I.C.I. (Dyestuffs), Ltd. *Signed by :* Richard Barrow, E. J. Bowen, L. E. Sutton.

(b)**Crofts, Peter Carlyle.** British. 10, Trinity Road, Aberystwyth. Student. *Signed by :* Henry Terrey, C. K. Ingold, J. N. E. Day.

(d)**Crombie, Leslie,** Inter B.Sc. Subsid. Physics (Lond.). British. 77, Wesley Grove, Copnor, Portsmouth. Experimental Assistant, Chemical Laboratory. *Signed by :* F. Hemming, George A. Knight, S. Barrett, R. M. Winter.

(b)**Crumpler, Harold Roy.** British. 23, Hillcrest Road, Orpington, Kent. Student. *Signed by :* H. J. T. Ellingham, L. S. Theobald, H. J. Emeléus.

†**Cutbill, Leslie James,** B.Sc. (L'pool), A.I.C. British. Cheshire Joint Sanatorium, Market Drayton. Biochemist to Cheshire Joint Sanatorium Board. *Signed by :* H. E. Monk, A. L. Bacharach, D. W. Kent-Jones.

Dale, Eric Charles Beresford, National Certificate, School Certificate in Chemistry. British. 12, Liscard Road, Wallasey. Works Chemist to Currie Rowlands & Co., Ltd., Seacombe Chemical Fertiliser Manufacturers. *Signed by :* R. R. Butler, A. E. Findley, Alfred Wright.

Davies, Gwyn, M.Sc. (Wales). British. Gyllynvase, Backwell Green, Flax Bourton. Analytical Chemist. *Signed by :* E. B. Maxted, J. K. N. Jones, T. Malkin.

†**Dobson, James,** A.I.C. British. 4, Montagu Terrace, Goldenacre, Edinburgh, 4. Research Chemist. *Signed by :* Hugh B. Nisbet, W. O. Kermack, James Sandilands.

(d)**Dodgson, Douglas Peter,** B.Sc. (Manc.), A.I.C. British. 32, Chaddesden Park Road, Derby. Works Chemist. *Signed by :* James J. Allen, G. B. Pickering, C. M. C. Dorkin.

†**Douglas, Bryce.** British. 47, Lochleven Road, Langside, Glasgow, S. 2. Student of Chemistry. *Signed by :* James Bell, T. S. Stevens, G. Thomson.

(c)**Drayton, Lancelot Whishaw Grimké,** Chemistry Student, Oxford University. British. Deepdene, Elms Road, Chalfont St. Peter. *Signed by :* H. W. Thompson, E. J. Bowen, R. G. Partington.

†**Emsley, Ernest,** A.I.C. British. "Nessfield," Benton Park Drive, Yeadon, Nr. Leeds. *Signed by :* F. Firth, R. Leslie Collett, H. E. Goodson.

‡**Evans, Lewis Knight,** M.Sc. (Manc.). British. 38, Hartington Road, St. Helens. Demonstrator in Chemistry. *Signed by :* A. E. Gillam, J. Wardleworth, J. Baddiley.

†**Fawns, Humphrey Theodore,** M.Sc. (Lond.), A.R.C.S., F.I.C. British. Physiology Department, London Hospital Medical College, Turner Street, E. 1. Demonstrator in Physiology and Pharmacology. *Signed by :* C. J. O. R. Morris, J. R. Marrack, F. W. Bury.

(c)**Fern, Alan Stanley,** B.Sc. (Lond.). British. 18, Prebend Gardens, Chiswick, W. 4. Student at Imperial College of Science (Postgraduate). *Signed by :* A. C. Egerton, L. L. Katan, M. B. Donald.

†**Field, William Edwin John,** B.Sc. (Lond.), A.I.C. British. 50a, Green Close, Walton, Stone. Analytical Chemist. *Signed by :* G. W. Whitfield, S. K. Tweedy, A. S. Nickelson.

Fletcher, Jack Prosser, B.Sc.Hons. (Sheffield). English. 64, Ringstead Crescent, Crosspool, Sheffield, 10. With the Ministry of Fuel and Power. *Signed by :* Brynmor Jones, David Woodcock, Neville J. Cartwright.

‡**Fox, John Mortimer Charleton,** B.A.Hons. (Oxon), A.I.C. British. Little Croft, 22, Heath Drive, Gidea Park. Chemical Manufacturer. *Signed by :* T. W. Howard, W. E. Huggett, R. Leslie Collet.

†**Frankenburg, Roger,** B.A. (Cantab.). British. 39, Old Hall Road, Manchester, 7. Shift Chemist. *Signed by :* F. G. Broughall, R. S. Hutton, F. L. B. Revis.

‡**Franklin, Hugh Belgrove,** B.Sc.Hons. (Lond.), A.R.C.S., D.I.C. British. 102, Wood Street, Burton-on-Trent. Production Manager at Trent Yeast Extract Co., Ltd., also advisory to the parent company, The English Grains Co., Ltd. *Signed by :* H. J. T. Ellingham, A. A. Eldridge, L. S. Theobald.

Gibbons, George Cuthbert, A.I.C. British. 25, Mentone Road, Heaton Moor, Stockport. Research Chemist. *Signed by :* F. Howlett, F. S. H. Head, Ralph J. B. Marsden.

†**Givens, John Harrison,** B.Sc. (Birm.), A.I.C. British. 192, Beechwood Avenue, Coventry. Assistant Research Supervisor, Messrs. Courtaulds, Ltd. *Signed by :* H. J. Hegan, Ernest E. Tallis, W. Etheridge.

‡**Goldsworthy, John Dalrymple,** B.Sc. (Lond.). British. 72, Pierrepont Road, W. Bridgford. Chief Chemist at North Wilford Power Station, Nottingham. *Signed by :* F. C. Laxton, E. B. R. Prideaux, John C. Roberts.

(b)**Graham, Archibald Robert.** British. 14, Claigmar Gardens, Finchley, N. 3. Undergraduate at Royal College of Science. *Signed by :* H. J. T. Ellingham, L. S. Theobald, H. J. Emeléus.

(b)**Grassie, Norman.** British. 339, Holburn Street, Aberdeen. 3rd year Student of Chemistry at Aberdeen University. *Signed by :* T. Harold Reade, J. E. Humphries, H. W. Melville.

(c)**Gray, Vincent Richard,** B.A. (Cantab). British. Emmanuel College, Cambridge. Research Chemist, Colloid Science Laboratory, Cambridge. *Signed by :* A. E. Alexander, F. S. Dainton, G. Coumoulos.

†**Green, Frank Joseph,** M.Sc. (Lond.), A.I.C. British. 15, Monks Orchard Road, Beckenham. Chemist and Departmental Manager to a firm of Chemical Manufacturers. *Signed by :* Thos. H. Durrans, B. Dudley Sully, Denis C. Quin.

Griffin, Philip Alford, B.Sc. (Lond.). British. 1, Denbigh Close, Ruislip. Research Chemist. *Signed by :* E. M. Stoddart, Malcolm Crawford, H. L. Long.

(c)**Grossman, Sydney,** Education equivalent to B.Sc. (Ord.) Standard. British. 17, Craigmillar Road, Langside, Glasgow, S. 2. Analytical Chemist. *Signed by :* Charles Buchanan, T. S. Stevens, James Bell.

(d)**Gwilt, John Ruff.** British. Analytical Chemist. *Signed by :* R. Sager, K. S. Sharples, F. S. Spring.

†**Gyngell, Eric Stephen,** B.Sc.Hons. (Lond.), Ph.D. (Lond.), F.I.C. British. 18, Darley Park Road, Derby. Head of Chemistry Department. Derby Technical College. *Signed by :* W. B. Chapman, J. Markland, J. C. Crocker.

†**Haigh, Harold Lovell,** A.I.C. British. 143, Squirrels Heath Lane, Gidea Park. Chief Chemist, City Glass Bottle Co., Ltd. *Signed by :* W. M. Hampton, S. G. Kendrick, David M. Freeland.

†**Hale, Reginald William,** B.Sc. (Birm.), A.I.C. British. "Blakeney," Tollerton Lane, Tollerton, Nottingham. Chemist, Boots Pure Drug Co., Ltd. *Signed by :* L. Anderson, Joseph Marshall, D. A. Peak.

Hall, George Edwin, B.Sc. (Leeds), A.I.C. British. "High Tor," 1, Gordon Road, Redcar. By-Product Plant Manager, Messrs. Dorman Long & Co., Ltd. *Signed by :* Thomas Biddulph Smith, H. J. Hodsman, J. W. Baker.

Harding, Geoffrey John, Rev. English. The Becket School, Wilford Lane, West Bridgford. Teacher of Chemistry. *Signed by :* D. O. Jordan. F. C. Laxton, John C. Roberts.

†**Harrison, Thomas Sydney,** B.Sc.Hons. (Lond.), B.Met. (Sheffield), A.I.C. British. 71, Greenhead Lane, Chapeltown, Nr. Sheffield. Analytical Research Chemist. *Signed by :* A. H. Dodd, R. Belcher, Kenneth C. Barraclough.

Hartley, Herbert Kent, B.Sc. (Manc.), F.I.C. British. 70, Tatton Road South, Heaton Moor, Stockport. Research Chemist. *Signed by :* Colin Campbell, Fred Fairbrother, G. N. Burkhardt.

†**Hawkesley, Alfred.** British. 106, King Street, Cottingham. Junior Chemist for British Industrial Solvents, Ltd., Saltend, Hedon, Hull, and Student at the Hull Municipal Technical College. *Signed by :* A. P. Backshell, Alban J. Gait, E. E. Connolly.

(b)**Hay, Ronald John.** British. 43, Fonthill Road, Aberdeen. Student at Aberdeen University. *Signed by :* T. Harold Reade, J. E. Humphries, H. W. Melville.

Haynes, Harold George, Inter B.Sc. (Lond.). British. 74, Honor Oak Park, S.E. 23. Student at Birkbeck College, London University, and Assistant Analytical Chemist. *Signed by :* David H. Widocks, D. J. G. Ives, Theodore White.

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(b)**Henbest, Harold Bernard,** Inter B.Sc. (Lond.). British. 244, Upminster Road, Rainham. Chemistry Student at Imperial College. *Signed by :* H. J. Emeléus, H. J. T. Ellingham, E. R. H. Jones.

(b)**Henstock, Hubert Ian.** British. 22, Grosvenor Street, Ellesmere Port. Analytical Chemist. *Signed by :* R. R. Butler, A. E. Findley, A. McGookin.

(b)**Hesketh, Raymond.** British. 8, Windsor Road, St. Helens. Student. *Signed by :* R. A. Morton, R. O. Griffiths, A. McGookin.

‡**Hill, Arthur,** B.Sc. (Lond.), 12 years post graduate research experience. British. "East Bank," 66, Hawthorn Street, Wilmslow. Research Chemist, I.C.I., Ltd., Dyestuffs Division. *Signed by :* R. F. Goldstein, E. Isaacs, Edwin B. Robinson.

†**Hodgson, William,** Ph.D., B.Sc.Hons. (L'pool), A.I.C., 2 years experience on Acid Plant Control. English. Chemist (Plant). *Signed by :* H. W. Gloyne, F. C. Buckley, R. Leslie Collett.

Holland, James Robert, Assoc. M.C.T. (Gen. Chem. Tech.). British. 40, Clarendon Road, Audenshaw. Manufacturing Chemist. *Signed by :* Carlton Butler, R. Brightman, P. Chorley, M. Lapworth.

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Howells, Daniel Clifford, Diploma in Metallurgy (University College of Wales), Associate of the Institution of Mining and Metallurgy, Graduate of the Institution of Chemical Engineers, Member of the Institute of Iron and Steel and Institute of Metals. British. 22, Green Park Road, Northfield, Birmingham, 31. Metallurgical Chemist in Charge of the Research Dept. of a Works. *Signed by :* J. E. Coates, L. E. Hinkel, E. E. Ayling.

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Kelly, William, B.Sc. and Ph.D. (Dun.). British. 13, Woolley Street, Bradford-on-Avon. Research Chemist. *Signed by :* H. S. Turner, Alan A. Goldberg, W. M. Madgin, P. L. Robinson.

Kingston, Brian Hugh, Intermediate Science. British. 25, Alyth Road, Talbot Woods, Bournemouth. Student at University College, Southampton. *Signed by :* K. R. Webb, I. G. M. Campbell, N. K. Adam.

Lacey, Richard Norman, B.Sc. (Lond.), A.R.C.S. British. Imperial College Hostel, Prince Consort Road, S.W. 7. Research Student. *Signed by :* E. R. H. Jones, J. R. Catch, R. H. Hall.

(d)**Landerson, James Roland.** British. Durham Road, Coalham, Mandeville, Darlington. Analytical Chemist. *Signed by :* F. R. Williams, A. R. Martin, Wm. T. Elwell.

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Leaf, George, M.Sc. (Manc.). British. Physiology Dept., The University, Manchester, 13. Demonstrator in Chemical Physiology, Manchester University. *Signed by :* A. E. Gillam, J. Baddiley, H. S. Raper.

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†**McFarlane, James Robert,** B.Sc.Hons. (L'pool), A.I.C. British. Caymanas Estate, Spanish Town, P.O. Jamaica. Chief Chemist and Sugar Technologist. *Signed by :* I. M. Heilbron, Alex. Findlay, R. Leslie Collett.

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Munro, Alexander Stuart McIntosh, A.H.W.C., A.I.C. British. c/o Gillespie, 26, St. Barnabas Road, Cambridge. Assistant Research Chemist. *Signed by :* Robert G. M. Dakers, James Sandilands, Hugh B. Nisbet.

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†**Owles, Archibald Bewick,** A.M.C.T., F.I.C. British. Chief Chemist. Manchester Corporation Electricity Dept. *Signed by :* F. Holme, Norman F. Crowder, A. J. Hall.

‡**Paines, Henry Wilfred,** M.P.S. British. St. Peters, Shepherds Way, Rickmansworth. Director of Paines and Byrne, Ltd. *Signed by :* Thomas McLachlan, A. Krajkeman, W. Solomon.

†**Peck, Geoffrey Charles Alan,** B.Sc. (Lond.). British. 11, Lionel Road, Tonbridge. Research Chemist. *Signed by :* William C. Peck, J. Kenyon, A. Houston.

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(d)**Pierce, John Stephen,** B.Sc.Hons. (Lond.). Degree not yet awarded as period of three years as Internal Student not yet complete. British. "Ubique," 52, Bridge Avenue, Upminster. Analytical Chemist to Messrs. May & Baker, Ltd. *Signed by :* Eric F. Hersant, D. J. G. Ives, W. Solomon.

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(b)**Pitcher, John Lanyon Beckett.** British. "Pathways," Loom Lane, Radlett. Student, King's College, London. *Signed by :* G. M. Bennett, Gwyn Williams, D. W. G. Style, C. S. Salmon.

(b)**Pittwell, Laurence Roy.** British. 40, Crescent Lane, Clapham Park, S.W. 4. Student (taking Finals Special Honours Chemistry in June). *Signed by :* G. M. Bennett, D. W. G. Style, Gwyn Williams, C. S. Salmon.

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Smith, Frank Edward, Member of British Association of Chemists, and Society of Chemical Industry. British. 71, Ealing Village, W. 5. Organic Chemist. *Signed by :* S. C. Mitchell, D. E. Seymour, K. C. Roberts.

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Templeton, Thomas. British. " Benview," Langbank. Student. *Signed by :* P. C. Austin, T. S. Stevens, James Bell.

Thornhill, George, B.Sc. and Ph.D. (Durham), A.I.C. British. " The Haven," Woodcock Hill, Pleasington, Blackburn. Development Chemist and Departmental Manager. *Signed by :* H. L. Riley, H. E. Blagden, G. R. Clemo.

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Watson, James Naylor, B.Sc. (Glas.). British. Assistant Chemist. *Signed by :* James Bell, J. W. Cook, A. E. Dunstan.

Weston, Ralph Edward, B.Sc. (Lond.), A.I.C. British. 263, Coventry Road, Ilford. Analytical Chemist. *Signed by :* J. K. Whitehead, E. P. Wheeler, R. Leslie Collett.

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Whitney, John Edward Seager, B.Sc. (Lond.), A.I.C. British. 13, Hillbury Road, Tooting, S.W. 17. Research Chemist. *Signed by :* R. Leslie Collett, Otto Oberländer, Kenneth B. Belcher.

(d)**Whitaker, William.** British. Chemical Laboratory Assistant. *Signed by :* R. M. Barrer, S. C. Mitchell, H. I. Stonehill.

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(b)**Whyte, Robert Bruce.** British. 166, Crown Street, Aberdeen. Student (3rd year Chemistry, Aberdeen University). *Signed by :* T. Harold Reade, J. E. Humphries, H. W. Melville.

Wilkinson, George Robert, M.P.S. British. The International Chemical Co., Braydon Road, N. 16. Research Chemist. *Signed by :* Theodore White, W. T. J. Morgan, D. E. Seymour.

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†**Wright, William Graham Desmond,** A.R.T.C., A.I.C. British. Research Chemist, Ministry of Supply. *Signed by :* W. M. Cumming, F. J. Wilson, A. B. Crawford.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Buchman, Edwin Raphael, C.E. (Rensselaer Polytechnic), M.S. (Mass. Inst. Tech.), Ph.D. (Frankfurt), Fellow of Hopkins Univ. 1936–37. U.S. Gates and Crellin Laboratories of Chemistry, California Institute of Technology, Pasadena, California, U.S.A, Head of above. *Signed by :* B. H. Wood.

‡**Randolph, Alan F.,** B.S. (Princeton), Ch.E. (Columbia), Service since 1916 in Research Dept., E.I. du Pont de Nemours & Co., U.S.A., Arlington, New Jersey, U.S.A., Office Manager, Plastics Dept. *Signed by :* Foster Dee Snell.

* Reduced annual subscription.
† Three-body.
‡ Two-body.

(a) Student Membership two-body.
(b) Student Membership three-body.
(c) Junior Membership two-body.
(d) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between January 20th and February 17th, 1944. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal.*)

"The properties of freshly formed surfaces. Part III. The rate of adsorption of *iso*amyl alcohol at the air-water surface." By C. C. Addison.

"The structure of pyrethrolane and related compounds. Part II." By T. F. West.

"Pyrolysis of xanthopinacol and related compounds." By A. Schönberg and A. Mustafa.

"An easy method for the preparation of dianthraquinone. The action of pyridine on dianthranol and dianthrone." By A. Schönberg and A. F. A. Ismail.

"Studies on indene derivatives. Part III. The constitution and some reactions of bisoxindone. The photochemical reduction of triketohydrindene." By A. Schönberg and R. Maubasher.

"The course of autoxidation reactions in polyisoprenes and allied compounds. Part VIII. The photo-oxidation of methyl elaidate." By D. A. Dutton.

"Geranylamine. A Note." By D. A. Sutton.

"Derivatives of chondrosamine." By M. Stacey.

"The triterpene resinols and related acids. Part XVI. A preliminary examination of a major oxidation product of the β-amyrin group." By (the late) N. Mower, J. Green, and F. S. Spring.

"The asymmetric photolysis of β-chloro-β-nitroso-αδ-diphenylbutane with circularly polarised light." By S. Mitchell and I. M. Dawson.

NOLOGY DEPT]

March, 1944.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, April 20th, 1944.

The Hundred and Third Annual General Meeting of the Chemical Society will be held at Burlington House on Thursday, April 20th, 1944. At 11.30 a.m. the business portion will be held: (*a*) To receive the Report of Council, together with Statement of Accounts and Balance Sheets for the year ended 31st December, 1943; (*b*) To declare the election of the President, and of a Vice-President who has not filled the office of President; (*c*) To receive the report of the Scrutators on the ballot for Elected Ordinary Members of Council for Constituency I (South-East England), and for Constituency IV (North-East England), and to declare the names of the Fellows duly elected; (*d*) To appoint Auditors for 1944.

At 12.45 *for* 1 *p.m.* Luncheon will be held at Stewart's Restaurant (corner of Piccadilly and Old Bond Street), and the price will be five shillings and sixpence (5*s.* 6*d.*) including coffee and gratuities.

At 2.30 *p.m.* Dr. W. H. Mills, M.A., F.R.S., will deliver his Presidential Address entitled: "Old and New Views on some Chemical Problems."

Thursday, May 18th, 1944, at 4.30 p.m.

Tilden Lecture on "Some Aspects of the Organic Chemistry of Phosphorus and Arsenic," by Dr. F. G. Mann, F.R.I.C.

OUTSIDE LONDON.

SHEFFIELD.

Friday, May 12th, 1944, at 5.30 p.m.

Lecture on "Carbohydrates containing Nitrogen and other Elements," by Professor W. N. Haworth, D.Sc., F.R.S. To be held in the Chemistry Lecture Theatre of the University. Official Meeting of the Society.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held in the Chemistry Lecture Theatre of The University of Leeds, on Thursday, March 2nd, 1944, at 5.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., F.R.S., was in the Chair.

PROFESSOR JOHN D. I. HUGHES, Deputy Pro-Vice-Chancellor extended a welcome to the Chemical Society to which the President replied.

MINUTES.

The Minutes of the Scientific Meeting of February 17th, 1944, were taken as read and were signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: M. G. Evans, N. Walker, David A. Hall, H. S. Raper, Miss Mabel L. Hemming, J. C. Speakman, Trefor Davies, S. Walter Butterworth, M. S. Robinson, H. H. Hodgson, L. Barker, S. Bywater, H. Richard Watson.

DISCUSSION.

A discussion on "The Mechanism of Oxidation–Reduction Reactions" was held, and was opened as follows:

PROFESSOR H. S. RAPER ..... "The Nature of some Biological Oxidation Systems."
PROFESSOR M. G. EVANS ..... "Electron Transfer Reactions."
DR. W. A. WATERS ..... "The Rôle of Free Radicals in Oxidation."
(communicated by Dr. J. W. Baker)

At 6.45 p.m. there was an interval for coffee and refreshments, and at 7.15 p.m. the discussion was resumed.

A vote of thanks to the Officers of the Chemical Society and to the Openers to the discussion, proposed by DR. H. BURTON, seconded by MR. D. HALL (Student President of the Leeds University Chemical Society), was carried with acclamation.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W.1, on Thursday, March 16th, 1944, at 2.30 p.m.

The PRESIDENT, DR. W. H. MILLS, M.A., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The Minutes of the Scientific Meeting at Leeds on March 2nd were taken as read and were confirmed and signed.

U.S.S.R. SOCIETY FOR CULTURAL RELATIONS WITH FOREIGN COUNTRIES, MOSCOW.

The President announced that the following reply had been sent to the U.S.S.R. Society for Cultural Relations with Foreign Countries, Moscow:

23rd February, 1944.

MY DEAR COLLEAGUE,

The Council of the Chemical Society received with the greatest pleasure at their meeting last Thursday your hearty greetings for the New Year. This message of good will was announced to our Fellows at the Scientific Meeting held in the afternoon and was received with acclamation.

On behalf of the Council and Fellows of the Chemical Society I send to you and your colleagues warm thanks for your good wishes. We join with you in the earnest and confident hope that complete victory will crown our common efforts and that the Allies may work together in close harmony for the benefit of mankind.

With cordial greetings,
Yours sincerely,
W. H. MILLS,
President.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: Bernard Lipton, P. N. Campbell, L. Hruska, F. Panzner, C. Edwards, B. Mandelik, S. P. Datta, G. D. Buckley, William Sabel, John Foley.

NINTH PEDLER LECTURE.

After a brief introduction, the PRESIDENT called on Dr. C. R. Harington, F.R.S., to deliver the Ninth Pedler Lecture, entitled: "Newer Knowledge of the Biochemistry of the Thyroid Gland."

At the conclusion of the Lecture, a vote of thanks to the Lecturer, proposed by Sir Robert Robinson, was carried with acclamation.

Minutes of a
SCIENTIFIC MEETING
held at King's College, Newcastle-upon-Tyne, on Friday, March 17th, 1944, at 6 p.m.

PROFESSOR ALEXANDER FINDLAY, M.A., D.Sc., Vice-President, was in the Chair.

The RT. HONOURABLE THE LORD EUSTACE PERCY, Pro-Vice-Chancellor of the University of Durham, extended a welcome to the Chemical Society, to which the Chairman replied.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: K. Schofield, C. M. Atkinson, S. Hornsby, R. H. Moses, R. Whitehead, K. R. Stainthorpe, K. H. Jack, G. A. Swan, J. Keaton, R. Wilson, H. L. Hutton, J. K. Blacklock, Norman Legg, J. H. Turnbull, Anthony Challis, D. G. Turner, E. Smith, Joseph Weiss.

TILDEN LECTURE.

The CHAIRMAN, after referring to the foundation of the Tilden Lectureship, called upon Dr. F. G. Mann to deliver his Tilden Lecture, entitled: "Some Aspects of the Organic Chemistry of Phosphorus and Arsenic."

At the conclusion of the lecture, a vote of thanks to DR. F. G. Mann, proposed by PROFESSOR G. R. CLEMO and seconded by PROFESSOR G. M. BENNETT, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
John Paul de Castro	1898	February 18th, 1944.
Mrs. Ida Smedley Maclean	1920	March 2nd, 1944.
Birkett Wylam	1921	January 15th, 1944.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. R. L. Jenks for a contribution to mark his completion of 50 years of Fellowship, to Sir Prafulla Rây for a contribution to the Library, and to Dr. R. Raper and Mr. D. M. Honeyman for presenting publications of the Society.

ELECTION OF SCRUTATORS.

Mr. C. S. Salmon and Dr. J. W. Smith have been appointed Scrutators to examine the voting papers for Elected Ordinary Members of Council for Constituencies I and IV.

FELLOWSHIP.

The following 159 candidates were elected Fellows of the Society on March 16th, 1944.

Edward Peter James Alexander.
William Melville Ames.
James Henry Anderson.
Michael George Ashley.
Charles Maitland Atkinson.
Gerald Lucien Baldit.
David Beenstock.
Dennis Clifford Beese.
Robert John Benzie.
Edward Eric Billington.
Donald Bradwell.
Frederick Jack Bristow.
Ernest Richard Broadfield.
Thomas Andrew Bruck.
Edwin Raphael Buchman.
Leonard Frederick Burroughs.
Alan Edward Callow.
Robert Stephen Card.
Maurice George Charlton.
Clifford George Childs.
Paul Arthur Claret.
John Stanley Coleman.
Kenneth Frank Coles.
Leslie Alfred George Cooper.
Eric Haydn Cornish.
Tom Leadbetter Cottrell.
William Arthur Cowdrey.
Peter Carlyle Crofts.
Leslie Crombie.
Harold Roy Crumpler.
Leslie James Cutbill.
Eric Charles Beresford Dale.
Gwyn Davies.
James Dobson.
Douglas Peter Dodgson.
Bryce Douglas.
Lancelot Whishaw Grimké Drayton.
Ernest Emsley.
Lewis Knight Evans.
Humphrey Theodore Fawns.
Alan Stanley Fern.
William Edwin John Field.
Jack Prosser Fletcher.
John Mortimer Charleton Fox.
Roger Frankenburg.
Hugh Belgrove Franklin.
George Cuthbert Gibbons.
John Harrison Givens.
John Dalrymple Goldsworthy.
Archibald Robert Graham.
Norman Grassie.
Vincent Richard Gray.
Frank Joseph Green.
Philip Alford Griffin.
Sydney Grossman.
John Ruff Gwilt.
Eric Stephen Gyngell.
Harold Lovell Haigh.
Reginald William Hale.
George Edwin Hall.
Geoffrey John Harding (Rev.).
Thomas Sydney Harrison.
Herbert Kent Hartley.
Alfred Hawkesley.
Ronald John Hay.
Harold George Haynes.
Kurt Heller.
Harold Bernard Henbest.
Hubert Ian Henstock.
Raymond Hesketh.
Arthur Hill.
William Hodgson.
James Robert Holland.
Arthur Herbert Holloway.
John Philip Holmes.
Daniel Clifford Howells.
John Herbert Hudson.
Martin Luther Hughes.
John Ernest Inkster.
William Kelly.
Brian Hugh Kingston.
Richard Norman Lacey.
James Lawrie.
George Leaf.
Anthony Lewis Levy.
Alexander Lewin.
Edward Joseph Lewis.
Harold Lewis.
Peter Raymond Lewis.
James Lockett.
Derek Albert Long.
James Robert McFarlane.
Leonard McGrath.
William White Marshall.
Enos Roy Marson.
William Edmund Mew.
Leslie Gordon Miller.
Frank William Mitchell.
William Brockie Mitchell.
Alexander Stuart McIntosh Munro.
Dudley Charles Murray.
Lionel Okun.
Andrew Orr.
Harry Godfrey Oswin.
Ronald Owen.
Archibald Bewick Owles.
Henry Wilfred Paines.
Geoffrey Charles Alan Peck.
Peter John Pengilly.
John Stephen Pierce.
Waclaw de Junosza Piotrowski.
John Lanyon Beckett Pitcher.
Laurence Roy Pittwell.
Alan Percy Platt.
Cecil Augustine Johns Plummer.
Sidney Alan Polaine.
Alan F. Randolph.
James Christie Robb.
Roy Roberts.
Mervyn Desmond Rogan.
Charles Edward Rowe.
John William Russell.
Colin Richard Jerome Ruthven.
James Roland Sanderson.
Donald Thomas Sarfas.
Arthur Edward Senior.
John Francis Short.
John Arthur Silk.
Reginald Slater.
William Arthur Smeaton.
Albert Smith.
Clifford William Robert Smith.
Frank Edward Smith.
George Fouet Smith.
Ronald Harvey Snoad.
William Edward Stafford.
Robert William Stobbs.
Kenneth Granville Sumner.
Thomas Templeton.
George Thornhill.
Leonard George Townsend.
Margaret Wood Ure.
Edmond James Vernon.
John Wood Vernon.
Terence Ward.
Gordon Watson.
James Naylor Watson.
Ralph Edward Weston.
Abraham Wexler.
John Edward Seager Whitney.
William Whitaker.
Bertha Whitter.
Robert Bruce Whyte.
George Robert Wilkinson.
Robert Alfred Wilkinson.
Richard Eryl Williams.
Robinson Pearson Wood.
James Victor Wright.
William Graham Desmond Wright.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than May 15th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

(a) **Alexander, Henry.** British. 11, Purley Road, Leicester. Laboratory Assistant. *Signed by :* H. L. Long, E. M. Stoddart, A. B. Macdonald.

(b) **Allen, Graham George.** British. 27, Wicander Parade, Swansea. Student at University College, Swansea. *Signed by :* J. E. Coates, E. E. Ayling, L. E. Hinkel.

(b) **Allen, Robert.** British. 15, Pearl Grove, Acocks Green, Birmingham, 27. Process Chemist. *Signed by :* C. H. Stephenson, J. Cooper Duff, J. Newton Friend.

†**Ballantyne, George Russell,** B.Sc. (Glas.), F.R.I.C. British. 8, Cleveden Gardens, Glasgow, W. 2. Chief Chemist, Clyde Paper Co., Ltd. *Signed by :* J. L. A. Macdonald, Geoffrey D. Muir, H. Ainsworth Harrison.

(d)**Banks, Arthur Ashdon.** British. "Seathorne," 76, Queen Street, Withernsea. Student, completing B.Sc. finals in June, 1944. Royal College of Science. *Signed by :* E. R. H. Jones, A. A. Eldridge, L. N. Owen.

(d)**Barnes, Leslie William Desborough,** B.Sc. Special Chem. (Lond.). British. 111, London Road, Burgess Hill. S/T Air Gunner (R.A.F.). *Signed by :* J. O'Mara-Bockris, J. F. Hemingshaw, G. E. Watts.

‡**Blake, John Norman,** B.Sc. (Lond.). British. 33, Welwyn Park Road, Hull, Yorks. Chemist and Assistant Works Manager. *Signed by :* P. S. Gordon, A. Cheshire, L. C. MacMahon.

(b)**Brickman, Sidney Woolf.** British. 146, Green Lanes, Clissold Park, London, N. 16. University Student, studying for B.Sc. Special in Chemistry, King's College, London. *Signed by :* G. M. Bennett, Gwyn Williams, C. S. Salmon.

†**Brown, Harold Frederick,** Ph.D., B.Sc. (Glas.), A.R.T.C., A.R.I.C. English, 27, Northwick Avenue, Kenton, Harrow. Civil Servant (M. of S.). *Signed by :* J. B. Wilkinson, F. J. Wilson, John B. Cranston.

(b)**Butler, Leslie Osgood.** British. 74, Crown Lane, Southgate, N. 14. Student. *Signed by :* E. R. H. Jones, A. A. Eldridge, L. N. Owen.

(b)**Carter, John Anthony.** British. 3, Stoughton Drive, N. Leicester. Student at Royal College of Science. *Signed by :* H. J. T. Ellingham, A. A. Eldridge, J. A. Kitchener.

†**Charlesworth, Percy Allan,** B.Sc.Hons. (Manc.), A.R.I.C., A.M.Inst.Pet. British. 5, Chandos Road, Heaton Chapel, Stockport. Research Chemist. *Signed by :* M. Polanyi, A. R. Todd, A. E. Gillam.

‡**Charley, Vernon Leslie Smith,** B.Sc., Ph.D. (Bristol). British. Wilder Street, Bristol, 2. Chief Chemist in Oil Refinery. *Signed by :* E. L. Hirst, T. Malkin, J. K. N. Jones.

(d)**Clapp, John William,** Nat. Certificate (Chemistry). British. 38, Dormer Road, Eastville, Bristol, 5. Laboratory Assistant. *Signed by :* P. Pyle, Arthur Marsden, J. Bridges.

†**Clulow, Frederick William,** B.Sc. (Lond.), Ph.D. (Leeds), A.R.I.C. English. 26, Ravenswood Avenue, West Wickham, Kent. Master in Charge of Science Dept., London School of Printing, S.E. 1. *Signed by :* G. L. Riddell, W. H. Banks, R. S. Bradley, J. Colvin.

‡**Coates, Arnold Coulson,** B.Sc. (Lond.), F.R.I.C. British. The British Aluminium Co., Ltd., Research Laboratories, Bank Quay, Warrington. Acting Laboratory Manager. *Signed by :* T. G. Pearson, H. W. L. Phillips, F. Pitts.

(a)**Coll, Francis Joseph,** M.Sc. (Univ. College, Galway). Irish. University College, Galway. Assistant in Chemistry, Dept. at University College, Galway. *Signed by :* Thos. Dillon, Vincent C. Barry, Thos. J. Nolan.

(b)**Coombs, Thomas Llewellyn,** Student. British. 38, Scholemoor Lane, Bradford. Student. *Signed by :* H. I. Stonehill, R. M. Barrer, C. W. Davies.

†**Cornish, George Reginald,** B.Sc.Hons. (Lond.) (to be awarded), A.R.I.C. British. 43, East View, Chingford, E. 4. Research Chemist. *Signed by :* L. W. Turner, H. Holness, I. L. Finar.

†**Denbigh, Kenneth George,** B.Sc., Ph.D. (Leeds), F.R.I.C. British. Chief Chemist. *Signed by :* W. H. Simmons, J. M. C. Thompson, E. L. Hirst.

(b)**Doughty, Kenneth Francis Walter.** British. 113, Fishponds Road, S.W. 17. University Student, King's College, London. *Signed by :* G. M. Bennett, D. W. G. Style, C. S. Salmon.

Dutt, Birendra Mohan, B.Sc. (Patna Univ.), trained in Sugar Technology and Distillery. Hindu. c/o Prof. G. N. Bose Mullick, M.A., Vice Principal, Meerut College, Meerut (U.P.), India. Technical Assistant, Central Distillery and Chemical Works, Ltd. (under U.P. Govt. Control), Meerut (U.P.), India. *Signed by :* J. C. Ghosh, R. C. Ray, K. Venkataraman.

†**Egan, Harold,** B.Sc. (Lond.), A.R.I.C. British. 40, Balfern Grove, Chiswick, W. 4. Analytical Chemist. *Signed by :* J. R. Nicholls, J. G. A. Griffiths, J. K. Whitehead.

†**Elias, Philip George,** M.Sc., University of Wales (Swansea). British. 34, Tan-y-Coad, Garden Suburbs, Burry Port. Chemist in factory. *Signed by :* J. E. Coates, L. E. Hinkel, E. E. Ayling.

†**Ettle, Gilbert William,** B.Sc.Hons. (Bristol), A.R.I.C. British. 11, Grantham Road, Norton, Stockton-on-Tees. Research Chemist. *Signed by :* S. C. Bevan, Colin Stevenson, C. W. Scaife.

†**Evans, Hywel,** B.Sc., Ph.D. (L'pool). British. Mossend, Bellshill, Lanarkshire. Plant Manager. *Signed by :* John Manning, M. P. Applebey, A. W. Taylor.

†**Evans, Ronald Major,** B.Sc. (2nd Class Hons. Special Chemistry, Lond.). A.R.I.C. British. 4, Springfield Street, Wigan. Chemist engaged in the supervision of manufacture. *Signed by :* A. Cooksey, J. F. J. Dippy, E. Foley.

†**Fairclough, Fred,** Assoc.M.C.T., A.R.I.C. British. 31, Woodhouse Lane, Brighouse. Works Chemist. *Signed by :* John K. Wood, T. K. Walker, O. Rhys Howell.

Fancutt, Frank, F.R.I.C., A.M.I.Chem.E. British. L.M.S. Research Laboratory, London Road, Derby. Paint Technologist, L.M.S. Railway. *Signed by :* W. H. J. Vernon, Guy B. Bengough, J. J. Fox.

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†**Foxcroft, Cyril Lindop,** B.Sc.Hons., M.Sc. (L'pool), A.R.I.C. British. 122, Dudley Road, Whalley Range, Manchester, 16. Metallurgist and Chemist. *Signed by :* A. McGookin, W. Doran, Francis W. Kay.

(b)**Fraser, John Berridge.** British. 20, Glebe Avenue, Enfield. Student of Chemistry. *Signed by :* E. R. H. Jones, A. A. Eldridge, L. N. Owen.

(b)**Frohnsdorff, Raymond Stanley Max,** Inter. B.Sc. British. "Touraine," 7, Wilmer Way, Southgate, N. 14. Student at Imperial College of Science and Technology. *Signed by :* L. S. Theobald, H. J. T. Ellingham, A. A. Eldridge.

†**Gillibrand, Maurice Ivan,** B.Sc.Hons. (Sheffield). British. 51, Malvern Road, Chesterfield. Junior Fuel Engineer, Ministry of Fuel and Power. *Signed by :* Brynmor Jones, N. J. Cartwright, R. D. Haworth, E. Gertrude Turner.

†**Grimshaw, Francis Peter,** B.Sc.Hons. (Lond.), A.R.I.C. British. 68, Cleveleys Avenue, Scale Hall, Lancaster. Research Chemist, Lansil, Ltd. *Signed by :* John Graymore, J. Bell, Jocelyn Patterson.

(a)**Gurney, Hubert William.** British. 41, Elmhurst Drive, Romford, Essex. Student, Imperial College, London. *Signed by :* H. J. T. Ellingham, L. S. Theobald, A. A. Eldridge.

(d)**Hall, Richard William,** B.Sc. 2nd Class Hons. (Lond.), A.R.I.C. British. c/o Mrs. Williams, "Swerford," Marina Road, Salisbury, Wilts. Research Chemist (Experimental Officer), employed at the Chemical Defence Experimental Station, Porton, Wilts. *Signed by :* B. A. Toms, F. J. Kettel, G. S. Hartley.

†**Hargreaves, Stanley,** B.Sc.Hons. (Lond.), A.R.I.C. British. 19, Bank Hey Lane South, Blackburn, Lancs. Works Chemist (Food Factory). *Signed by :* W. Taylor, J. E. Wynfield Rhodes, R. L. Collett.

***Hepworth, Walter,** Inter B.Sc. (Lond. External). English. 16, Kinvel Road, New Moston, Manchester, 10. Laboratory Assistant. *Signed by :* G. M. Timmis, F. R. Basford, E. Hoggarth.

†**Hewitt, Donald Helmsley,** M.A. (Cantab.). British. 242, Chiswick Village, W. 4. Research Manager, Messrs. Lewis Berger & Sons, Ltd. *Signed by :* Neil R. Fisk, J. Musgrave, A. H. Stevens.

***Hegginson, William Charles Edward.** British. Balliol College, Oxford. Student in Chemistry, Univ. of Oxford. *Signed by :* F. E. King, R. M. Lodge, Ronald P. Bell.

†**Hill, Alfred Grenville,** A.R.I.C. British. 18, Downs Court Road, Purley, Surrey. Scientific Administrative Staff, The British Drug Houses, Ltd. *Signed by :* N. H. Philip, R. J. Boscott, E. Cooper.

(b)**Hocknell, William.** British. London House, Fforestfach, Swansea. Honours Chem. Student, University College, Swansea. *Signed by :* J. E. Coates, L. E. Hinkel, E. E. Ayling.

†**Holmes, Kenneth Wigfield,** B.Sc. (Lond.), A.R.I.C. British. 27, North Lodge Terrace, Darlington. *Signed by :* C. Fuller, C. S. Harper, H. Lambourne.

†**Holmes, Leslie Henry Alfred,** B.Sc. (Lond.), A.R.I.C. British. 84, Ryecroft Avenue, Whitton, Twickenham. Professional Civil Servant (Chemist) (D.S.R. Ministry of Supply). *Signed by :* W. B. Brown, N. J. L. Megson, M. G. Church.

(d)**Hulme, Ralph,** State Scholarship in Chemistry. British. 3, Danefield Place, Liverpool, 19. Student in University of Oxford. *Signed by :* R. M. Lodge, G. D. Parkes, F. Sherwood Taylor.

†**Joiner, Eric Millward,** B.Sc. (Birm.), F.R.I.C., A.C.I.S. British. 15, Halton Road, Sutton Coldfield. Chemist. *Signed by :* S. R. Carter, F. W. Pinkard, Garfield Thomas.

†**Jones, Osman,** F.R.I.C. British. Chief Chemist and Technical Adviser. *Signed by :* E. L. Hirst, J. K. N. Jones, T. Malkin, E. B. Maxted.

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(b)**Kullin, Roy Powell,** Registered Student of Royal Institute of Chemistry. British. 8, Gloucester Place, Mumbles, Swansea. Chemistry Student at University College of Swansea. *Signed by :* J. E. Coates, E. E. Ayling, L. E. Hinkel.

†**Lazell, Harold,** B.Sc. (Lond.), F.R.I.C. British. The Corner House, Weston Green, Thames Ditton. Technical Director and Works Manager, Cellon, Ltd., Kingston-on-Thames. *Signed by :* L. A. Jordan, D. R. Duncan, S. H. Bell.

(a)**Lofthouse, Allan,** Inter B.Sc. British. 57, Shadsworth Road, Blackburn. Student. *Signed by :* W. Taylor, J. Bell, J. Wynfield Rhodes.

†**Lord, Kenneth Alan,** B.A. (Cantab.), A.R.I.C. English. Harpenden. Assistant Chemist, Dept. Insecticides and Fungicides, Rothamsted Exptl. Station. *Signed by :* F. Tattersfield, H. M. Davies, George W. Cooke.

(c)**McConnell, John Alexander,** Dipl. Chemical Engineering, I.C. Schools, Lond. British. 12, Haywood Avenue, Ormeau Road, Belfast. Chemist (Chief), Belfast Corporation Gas Works. *Signed by :* A. W. Stewart, H. Graham, A. Percy Hoskins.

†**Maggs, Francis Thomas,** M.Sc., Ph.D. (Bristol), F.R.I.C. British. *Signed by :* Elwyn Roberts, A. R. Ubbelohde, W. W. Jones.

Menzies, William Ramsay, B.Sc. (2nd Class Hons.), (St. Andrews), A.R.I.C. British. 5, Douglas Street, Kirkcaldy. Assist. Teacher of Science in Kirkcaldy High School. *Signed by :* John Read, John Dewar, James Y. Macdonald.

†**Milner, Francis Highland,** B.Sc., Ph.D. (Lond.), F.R.I.C. British. 4, Erncroft Way, Twickenham. Chief Research Chemist, Macleans, Ltd. *Signed by :* G. W. Ferguson, J. Kenyon, W. McGeorge.

(d)**Munday, Leonard,** Inter B.Sc. (Lond. External), Subsid. B.Sc. (Physics). British. 61, Tavistock Road, Linthorpe, Middlesbrough. Laboratory Assistant. *Signed by :* G. I. Higson, A. J. Prince, F. J. Wilson.

†**Murfitt, Harry Charles,** B.Sc. 1st Class Hons. (Lond.), A.R.I.C. British. 17, Ravenscroft Drive, Chaddesden, Nr. Derby. Industrial Research Chemist. *Signed by :* William Flavell, John C. Roberts, E. O'Farrell Walsh.

‡**Newman, Anthony Armin,** Chemical Engineer and D.Sc. (Techn.), Brno. British. 6, Rossmore Court, Park Road, N.W. 1. Research Chemist. *Signed by :* Stuart M. Phillips, J. C. Drummond, Leo Ivanovszky.

†**Norwood, Arthur Frederick Bernard,** F.R.I.C., B.Sc. (Met. Engineering), 1st Class Hons. (Lond.), A.R.S.M., Member of the Australasian Institute of Mining and Metallurgy, Associate of the Institute of Engineers, Australia. British. 165, Victoria Avenue, Claremont, Western Australia. Consulting Metallurgical and Chemical Engineer. *Signed by :* Alex. Findlay, F. P. Dunn, L. H. Lampitt.

†**Oldham, Graham,** B.Sc.Hons. (Lond.), A.R.I.C. British. 3, Hudson Street, Loughborough. Senior Lecturer in Inorganic Chemistry, Loughborough College, Loughborough. *Signed by :* C. Whitworth, J. M. Connolly, W. S. Stevens.

(d)**Owen, Arthur Glynne,** A.R.I.C. British. 9, Manor Road, Salford, 6. Analytical Chemist. *Signed by :* J. R. Walmsley, E. Pedley, John Graymore.

(d)**Pawson, Robert Lewis,** B.Sc.Hons. (Dun.), A.R.I.C. British. 40, West Road, Irvine. Industrial Chemist. *Signed by :* G. R. Clemo, H. L. Riley, R. Raper.

***Peake, Norman Berry,** Inter. B.Sc. (studying for B.Sc.Hons.). 3 years as Assistant Chemist, Research Dept. May & Baker, Ltd. British. 6, Dorset Road, Merton Park, S.W. 19. Research Chemist, Messrs. Cellon, Ltd. *Signed by :* Royston Drew, Leslie G. Luker, D. D. Libman.

(b)**Pearson, Jack,** Inter. B.Sc. and subsidiary (Geology) to B.Sc. Special Chemistry of University of London. British. 1016, Holderness Road, Hull. Chemistry Student at Imperial College of Science and Technology, London. *Signed by :* H. J. T. Ellingham, E. R. H. Jones, L. S. Theobald.

†**Pellowe, Ernest Frank,** B.Sc. Hons. (Reading), A.R.I.C. British. "Inglenook," Panfield, Braintree. Chemist, Analytical and Research. *Signed by :* P. M. Fisk, H. Bassett, Jas. H. McGregor.

(b)**Penny, David Sheldon.** British. 11, Park View Road, Heaton, Bradford. Student. *Signed by :* R. M. Barrer, H. I. Stonehill, C. W. Davies.

(d)**Percy, Nathaniel,** B.Sc. (Glas.). British. 70, Lounsdale Drive, Paisley. Research Student, Chemistry. *Signed by :* J. W. Cook, James Bell, S. Horwood Tucker.

†**Perkins, Norman Gray,** M.Sc. (Wales), A.R.I.C. British. 210, Cathedral, Cardiff. Civil Servant (Analytical Chemist). *Signed by :* N. T. Simmons, N. M. Cullinane, I. B. Thomas.

***Pine, John Edward.** British. Balliol College, Oxford. Chemistry Student, Oxford Univ. *Signed by :* F. E. King, R. M. Lodge, Ronald P. Bell.

(a)**Pool, Michael Charles.** British. "Windyrise," Wieland Road, Northwood. Student of Chemical Engineering. *Signed by :* A. H. Cook, A. G. Pollard, M. B. Donald.

(b)**Rattee, Ian Durham,** Inter. B.Sc. (Lond.). British. 27, West Avenue, Wallington. Student at the Royal College of Science. *Signed by :* A. A. Eldridge, H. V. A. Briscoe, H. J. T. Ellingham.

†**Raw, Robert,** B.Sc. (Lond.), A.R.I.C. British. 158, Long Lane, Dalton, Huddersfield. Chemist. *Signed by :* Thos. A. Simmons, R. F. Goldstein, Stanley J. Green.

Rees, Vincent Richard Mansel, Member of the Institute of Metals, Associate Member of the Institution of Petroleum Technologists, Associate Member of the Technological Inst. of Great Britain, Associate Member of the Inst. of Engineering Technology. British. 24, Soper Grove, Basingstoke. Assistant Works Chemist and Metallurgist. *Signed by :* G. S. Hartley, E. A. Evans, M. J. Green.

†**Roberts, David John,** A.R.I.C., Ph.C., M.P.S., D.B.A. British. "Asonia," Bathurst Walk, Iver. Assistant Works Manager. *Signed by :* W. H. Bennett, R. J. Cole, K. Wallersteiner.

(c)**Rutherford, William Alexander,** C.G.L.I. Finalist in Oils, Fats, and Waxes, C.G.L.I. Inter. in Paints and Varnishes. British. 162, Fairfax Avenue, Hull. Analytical Chemist to a firm of Paint Manufacturers. *Signed by :* T. Balmforth, Harry Thompson, H. J. Hodsman.

(b)**Salter, Henry Leslie.** British. 78, Warham Road, Hornsey, N. 4. Student at the Imperial College of Science and Technology. *Signed by :* H. J. T. Ellingham, A. A. Eldridge, L. S. Theobald.

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†**Stenhouse, Thomas,** B.Sc. (Lond.), A.R.C.S., A.R.S.M., F.R.I.C. British. St. Margarets, West Lulworth, Wareham. Retired Civil Servant. *Signed by :* T. C. J. Ovenston, John G. F. Miller, F. E. Wilson.

***Sykes, Peter,** B.Sc.Hons. (Manc.). British. Ranmoor, 11, Herrybower Road, Broughton Park, Salford, 7. Research Student in Organic Chemistry, preparing for the Degree of M.Sc. *Signed by :* Fred Fairbrother, A. E. Gillam, A. R. Todd, J. Baddiley.

(b)**Thomas, Alun.** British. 26, Spencer Street, Cwmaman, Aberdare, Glam. Student (at Imperial College, S.W. 7). *Signed by :* E. R. H. Jones, L. N. Owen, A. H. Cook.

(c)**Tweedy, John Martin,** B.A. (Cantab.) (Part I Nat. Sci. Tripos, Class I). British. 2, Westfield Park, Gosforth. Post Grad. Student. *Signed by :* A. C. Egerton, M. B. Donald, L. L. Katan.

Varcoe, Alfred Harold, B.Sc. (Sydney Univ.), Industrial Chemist, 20 years experience in Technology of Gelatine, Glue, Animal Fats, Fertilizers, etc. British. 36, Wolseley Road, Point Piper, Sydney, N.S.W., Australia. Manufacturing Superintendent and Director of Research in the organisation of Davis Gelatine (Australia) Pty., Ltd., Sydney, N.S.W. *Signed by :* J. C. Earl, K. J. Baldick, Thomas Iredale.

†**Ward, Joseph,** B.Sc., Ph.D. (L'pool), A.R.I.C. British. 50, Cooper Street, St. Helens. Research Chemist. *Signed by :* L. J. Burrage, L. A. Haddock, A. G. Jones.

†**Waywell, James,** A.M.C.T., A.R.I.C. British. 35, Alington Grove, Woodcote Green, Wallington. Chemist. *Signed by :* T. Moore, L. W. Bywaters, R. Leslie Collett.

†**Westmoreland-White, Beryl,** M.Sc. (Lond.), D.I.C., A.R.C.S., A.R.I.C. British. 70, Glendower Avenue, Coventry. Research Chemist. *Signed by :* J. L. Borthwick, J. H. Burton, H. J. Emeléus.

†**White, Eric Newman,** A.R.I.C. British. Analytical Chemist. *Signed by :* John C. Dine, J. M. C. Thompson, K. L. Graham.

(a)**Willson, Kenneth Christopher.** British. 20, Wimmerfield Avenue, Sketty, Swansea. Student of Chemistry, University College, Swansea. *Signed by :* E. E. Ayling, J. E. Coates, L. E. Hinkel.

†**Wilson, George Edward,** A.H.W.C., F.R.I.C. British. "Rathgar," 19, Middleton Avenue, Littleover, Derby. Chemist (Research Dept., L.M.S. Railway Co.). *Signed by :* Robert G. M. Dakers, James Sandilands, Hugh B. Nisbet.

‡**Wilson, Robert Lawrence.** British. "Highcroft," Caledonian Road, Saviletowh, Dewsbury. Director, J. Brown & Co., Ltd., Dewsbury, Yorks. *Signed by :* G. J. Denbigh, H. Burton, J. D. Jessop, J. W. Baker.

†**Wilson, William,** F.R.I.C. British. County Laboratory, County Buildings, Dumfries. Junior County Analyst and Additional Public Analyst. *Signed by :* John W. Hawley, I. Vance Hopper, Jas. Sword.

(b)**Wrenn, John Arthur,** Inter. B.Sc. (Lond.). British. 60, Kendal Drive, Slough, Bucks. Student, Chemistry Honours, Univ. of London, King's College. *Signed by :* G. M. Bennett, D. W. G. Style, Gwyn Williams.

‡**Wright, William Elkington.** Has been continuously engaged for the past 15 years in developing chemical treatment methods including the processes for the phosphate-coating of metals, known industrially as Parkerizing and Bonderizing. This work has initiated original research on the chemistry of surface reactions, leading to the publication, in a series of British Patents, of new knowledge on this subject. British. 14, Manor Gardens, Hampton-on-Thames. Manager, Metal Finishing Division, The Pyrene Co., Ltd. *Signed by :* Elise G. Baker, Francis Schollick, S. Barratt.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Chalmers, William, M.A. (British Columbia), Ph.D. (McGill Univ.), Post Grad., Univ. of Freiburg, Germany. British (born in Scotland). c/o Western Chemical Industries, Ltd., LaPointe Pier, Vancouver, B.C., Canada. Technical Director and Director of Research, Western Chemical Industries, Ltd., Vancouver, Canada. *Signed by :* R. H. Clark, W. H. Hill.

Mookerjea, Nandipate, M.Sc. and B.L. (Patna Univ.). Indian. Dungar College, Jamna Talai, Ranibazar, Bikaner, India. Professor of Chemistry. *Signed by :* P. D. Swami.

(c)**Neeman, Moshé M.,** B.Sc. (Lond.), M.Sc. (Hebrew Univ.). 3 years Technical and Research Work in Organic Chemistry mostly. Palestinian. c/o Sieff Research Institute, P.O. Box 26, Rehobot, Palestine. Chemist. *Signed by :* L. Haskelberg.

Ryan, Leo Edward, B.Chem.Eng. (McGill), Member American Institute of Chemical Engineers, Fellow Canadian Institute of Chemistry. Canadian. 425, St. Patrick Street, LaSalle, P.Q., Canada. Director (in charge of Manufacturing), Mallinckrodt Chemical Works, Ltd., of Canada. *Signed by :* Leon Lortie, W. D. McFarlane.

Smith, George Ransom, M.Sc. (Dalhousie), Ph.D. (McGill). Canadian. Nova Scotia Agricultural College, Truro, Nova Scotia. Nova Scotia Provincial Chemist. *Signed by :* C. M. Robinson, F. C. Collier.

†**Tinker, John M.,** B.S. (Chicago), Chemical Research, March 1st, 1919 to date. American. 106, West 42nd Street, Wilmington, Delaware (Home), Jackson Laboratory, P.O. Box 525, Wilmington, Delaware. (Business) Director Jackson Laboratory, E.I. du Pont de Nemours & Co., Wilmington, Delaware. *Signed by :* W. S. Calcott, Foster D. Snell.

* Reduced annual subscription.
† Three-body.
‡ Two-body.

(a) Student Membership two-body.
(b) Student Membership three-body.
(c) Junior Membership two-body.
(d) Junior Membership three-body.

PAPERS RECEIVED.

List of papers received between February 17th and March 16th, 1944. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal.*)

"The constitution of belmacamgenin and belmacamdin. Part I." By S. Wang and H. Su.

"Molecular compounds between amides and sulphur dioxide. A comment on Jander's theory of ionic reactions in sulphur dioxide." By L. C. Bateman, E. D. Hughes, and C. K. Ingold.

"Azoxysulphones, their preparation and properties, with observations on the structure of diazotates." By W. V. Farrar and J. Masson Gulland.

"The triterpene group. Part XI. The non-saponifiable matter of *Lactucarium germanicum.*" By J. C. E. Simpson.

"The separation of 3-nitro-1-naphthylamine and 4-nitro-2-naphthylamine by maleic anhydride, and the monobromination of 4-nitro-2-naphthylamine." By Herbert H. Hodgson and David E. Hathway.

"An interpretation of the Sandmeyer reaction. Part V. The comparative behaviour of cuprous, cupric, and ferric chlorides as catalysts." By Herbert H. Hodgson and Douglas D. R. Sibbald.

"Constitution of shellac. A note on the increased yield of aleuritic acid." By B. S. Gidvani.

"Some basically substituted derivatives of benziminazole and lupinane." By G. R. Clemo and G. A. Swan.

"Separation of methylated methylglycosides by adsorption on alumina. A new method for end group determinations in methylated polysaccharides." By J. K. N. Jones.

"Antiplasmodial action and chemical constitution. Part VII. Derivatives of quinine and *iso*quinine." By I. S. Work.

"The strengths of six monocarboxylic acids in 25% aqueous acetone and 20% aqueous sucrose." By Idriswyn Davey and J. F. J. Dippy.

"*D*-Ribobenziminazole. A correction." By Geoffrey R. Barker, Kathleen R. Cooke, and J. Masson Gulland.

TECHNOLOGY DEPT.
JUL 1 - 1944

April, 1944

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, May 18th, 1944, at 4.30 p.m.

Tilden Lecture on "Some Aspects of the Organic Chemistry of Phosphorus and Arsenic," by Dr. F. G. Mann, F.R.I.C.

OUTSIDE LONDON.

SHEFFIELD.

Friday, May 12th, 1944, at 5.30 p.m.

Lecture on "Carbohydrates containing Nitrogen and other Elements," by Professor W. N. Haworth, D.Sc., F.R.S. To be held in the Chemistry Lecture Theatre of the University. Official Meeting of the Society.

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PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

ALL UNION CHEMICAL SOCIETY IN MOSCOW.

The Council have sent the following message of greeting and congratulation to the All-Union Chemical Society in Moscow:

"The President, Council and Fellows of The Chemical Society
to
"The All-Union Chemical Society in Moscow.

"The President, Council and Fellows of The Chemical Society send hearty greetings to their colleagues in the All-Union Chemical Society in Moscow, and best wishes for the success of the meetings held to celebrate the epoch-making discovery of the Periodic Classification of the Elements in 1869 by their illustrious fellow-countryman, Mendeléev.

"W. H. MILLS,
"President."

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than May 15th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

†**Alner, David John,** B.Sc. (Lond.), A.R.I.C., Industrial Research and Plant Experience, Academic Research. British. 22, Jesmond Grove, Hartburn, Stockton-on-Tees. Research Chemist. *Signed by:* M. P. Applebey, B. W. Bradford, A. J. Prince.

(a)**Arnstein, Heinrich Rudolf Viktor,** Inter. B.Sc. (Lond.). Austrian. 80, Priory Gardens, Highgate, N. 7. Student at the Royal College of Science, South Kensington. *Signed by:* L. N. Owen, E. R. H. Jones, A. A. Eldridge.

(b)**Atlas, Peter Nathan,** Subsid. Physics B.Sc. Studied at University College, London University, from 1940—43. British. Shangrila, 11, Garrick Avenue, Golders Green, N.W. 11. Research Chemist to Kilol, Ltd., and Technical Director of Sure-Death Pest Exterminators, Ltd. *Signed by:* J. N. E. Day, C. K. Ingold, Henry Terrey.

***Baker, James Albert,** Inter. B.Sc. (Lond.). British. 93, Lea Road, Northampton. Student. *Signed by:* W. Siddall, A. Wexler, D. Plews.

***Belshaw, Philip Leigh,** B.Sc.Hons. (Dun.). British. 72, Regent Avenue, Gosforth, Newcastle-on-Tyne, 3. Research Chemist. *Signed by:* G. A. Swan, Wesley Cocker, D. G. Turner.

***Biberstein, Gerhard Viktor,** B.Sc.Hons. (Lond.). German. 25, Oakwood Avenue, Boreham Wood. Research Chemist at Dufay-Chromex, Ltd. *Signed by:* J. R. Partington, M. Davis, H. D. K. Drew.

***Bremner, John McColl,** B.Sc.Hons. (Glas.). British. 17, Church Street, Dumbarton. Research Student (Glasgow University). *Signed by:* T. S. Stevens, S. Horwood Tucker, Andrew Kent.

†**Byrne, John Francis,** A.R.I.C. British. Craigmore, Greenfield Avenue, Dinas Powis. Analytical Chemist. *Signed by:* W. Idris Jones, N. T. Simmons, R. Hutt.

(d)**Carruthers, Thomas Geoffrey,** B.Sc.Hons. (Leeds), A.R.I.C. British. Egmore, 58, Hookstone Road, Harrogate. Chemical research in ceramics. *Signed by:* A. L. Roberts, Frederick Challenger, J. W. Baker, H. Burton.

†**Carter, John Whitaker,** B.Sc.Hons. (Lond.), A.R.I.C. British. 1, Cross Flatts Terrace, Leeds, 11. Professional and Technical Civil Servant (Analytical Chemist). *Signed by:* A. Breare, Robert Gawler, Joseph M. J. Estevez.

†**Clark, William Richard Ernest,** B.Sc. (Lond.), A.R.I.C. British. Collyhurst, Manchester, 9. Analytical Chemist. *Signed by:* W. M. Seaber, A. C. Davall, G. Lawson.

***Clarke, Murray Frederick,** B.Sc.Hons. (Lond.), A.R.C.S. British. The Old Hall, Vale Road, Whitby, Wirral. Research Chemist. *Signed by:* Philip J. Garner, J. H. Beynon, P. A. Winsor.

†**Emerson, Alfred George David,** A.R.I.C. British. 13, Arlington Gardens, Chiswick, W. 4. Chemist—Technical Assistant, Industrial Water Treatment. *Signed by:* S. Stevens, D. C. Hancock, L. A. Jordan, S. H. Bell.

†**Emsley, Dick,** B.Sc.Hons. (Leeds), A.R.I.C. British. The Warren, Spital Road, Spital, Bromborough. Plant Control Chemist. *Signed by:* George Brearley, B. D. W. Luff, P. N. Williams.

Farage, Fredrick Francis. British. St. Mary's Street, Collyhurst, Manchester, 9. General Manager, Cumming Parsons Ltd. (Food Chemists). *Signed by:* G. Lawson, A. F. Mason, K. K. Lophandvala.

†**Farmer, Robert Harvey,** B.A. and B.Sc. (Oxon), D.Sc.Tech. (Zurich), F.R.I.C. British. 16, Lansdown Road, Sidcup. Research Chemist. *Signed by :* A. Forster, Elwyn Roberts, W. E. Garner, W. W. Jones.

***Giles, Mavis Evelyn,** B.Sc.Hons. (Lond.). British. 6, Dellcott Close, Welwyn Garden City. Research Chemist. *Signed by :* C. W. Picard, D. E. Seymour, S. C. Mitchell.

Gledhill, Harold. British. Mayfield, Argomeols Road, Freshfield, Liverpool. Chairman and General Manager, General Kaputine Syndicate, Ltd. *Signed by :* G. Lawson, A. F. Mason, K. K. Lophandvala.

(d)**Gordon, John Prebble,** awaiting A.R.C.S. and B.Sc. Degree results (Courses completed). British. 16, Audley Road, Ealing, W. 5. Student. *Signed by :* H. J. T. Ellingham, L. S. Theobald, A. A. Eldridge.

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†**Gregory, John Edward,** B.Sc.Hons. (L'pool), A.R.I.C., A.M.I.Chem.E. British. 15, Sibford Road, Alder Road, Liverpool, 12. Research Chemist, Messrs. J. Bibby & Sons, Ltd. *Signed by :* H. Jasperson, Norman F. Lythgo, C. Leslie Bibby.

†**Grudgings, Donald Malcolmson,** B.Sc.Hons. (Lond.), A.R.C.S. British. 13, Sutherland Grove, Norton, Stockton-on-Tees. Research Chemist. *Signed by :* M. P. Applebey, A. J. Prince, H. N. Wilson.

(c)**Grunberg, Erika,** B.Sc.Hons. (Lond.). Roumanian. 23, Barkston Gardens, S.W. 5. Research at King's College, London, registered as a Ph.D. Student. *Signed by :* G. M. Bennett, C. S. Salmon, Gwyn Williams.

(b)**Hawkins, Peter Jack.** British. 99, Hall Road, Hull. Chemist. *Signed by :* L. Balmforth, E. M. Hall, Edward Chapman.

†**Hesford, Edward,** A.R.I.C., A.M.C.T. British. 61, Moss Bank, Crumpsall, Manchester, 8. Chemist, Analytical and Investigational. *Signed by :* J. Skull, T. Harrington, R. A. E. Galley.

Heyworth, Robert, B.Sc.Hons. (Manc.). British. 338, Padiham Road, Burnley. Research Chemist. *Signed by :* Philip J. Garner, Harold W. Jones, J. H. Beynon.

†**Higgins, John Charles,** B.Sc.Hons. and Ph.D. (Lond.), D.I.C. British. 8, Holly Grove, Rhosnessney, Wrexham. Analytical Chemist. *Signed by :* W. F. Bennett, M. L. Smith, F. G. Dunton.

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‡**Janousek, Emil,** Technical University, Prague. Czechoslovakian. *Signed by :* W. G. S. Parker, G. A. Earwicker, Wm. Wardlaw.

‡**Jefferies, Paul,** Inter. B.Com. (Lond.). Studied Physics, Chemistry, Pure and Applied Maths. to Inter. B.Sc. standard. British. The Rossett, 1, Parsons Green Lane, Fulham, S.W. 6. Employed by Drug Importers. Attending part-time day course in entomology at Kingston Technical College and correspondence course in Chemistry, Botany, Zoology and Biology in preparation for post-war work on pyrethrum and insecticides. *Signed by :* F. Tattersfield, W. M. Seaber, A. C. Davall.

†**Jennings, William Parker,** M.Sc. (L'pool), A.R.I.C. British. 32, Boundary Road, Carshalton. Headmaster, Wimbledon Technical School. *Signed by :* D. F. Rushman, C. R. Pye, Stuart M. Phillips.

(c)**Leake, Olive Mary,** B.Pharm. (Lond.). British. 1, Alexandra Mansions, Beaufort Street, Chelsea, S.W. 3. Analytical Chemist. *Signed by :* Sidney G. E. Stevens, W. Davey, D. C. Garratt.

(a)**Levin, Sarn,** Belgian. 411, Keyes House, Dolphin Square, S.W. 1. Student in Chemistry at Royal College of Science. *Signed by :* J. N. Sugden, H. J. T. Ellingham, A. A. Eldridge.

†**Lintern, Philippe Arthur,** B.Sc. and Ph.D. (Lond.). British. Pantiles, 64, Harlsey Road, Hartburn, Stockton-on-Tees. Chemical Plant Manager. *Signed by :* R. W. Ancrum, F. R. Williams, A. Eric J. Vickers.

‡**Love, Thomas,** B.Sc. and Ph.D. (Glas.). British. 45, Reddings Road, Moxley, Birmingham, 13. Research Chemist. *Signed by :* G. Barnett, T. T. Jones, A. A. K. Whitehouse.

†**McGill, John Heron,** A.R.I.C. British. 42, Clumber Road, Debdale Park, Gorton, Manchester, 18. Research Chemist. *Signed by :* F. S. H. Head, F. Howlett, Fredk. O. Howitt.

†**McManus, Kenneth Stuart,** A.R.I.C. British. 22, The Crescent, Malsycwmmer, Hengold. Analytical Chemist. *Signed by :* R. Hutt, W. Idris Jones, N. T. Simmons.

†**Maddocks, John Robert,** F.R.I.C., A.M.I.Chem.E. British. 28, Denison Road, Victoria Park, Manchester, 14. Deputy Head of Department, Dyestuffs and Organic Chemical Manufacture. *Signed by :* Alfred N. Leather, Fred. L. Sharp, Arnold Kershaw.

Marsh, Frederick Ellison, Higher National Cert. Chemistry, A.R.T.C. (Salford). British. c/o 41, Manor Avenue, Sale. Chemist, Research Department, Metropolitan-Vickers Elect. Co., Ltd. *Signed by :* James T. Kendall, Thomas Raine, G. A. Geach.

†**Murfitt, George,** A.R.I.C., Associateship in Ferrous Metallurgy (Sheffield). British. 40, Vernon Road, Totley Rise, Sheffield. Chief Chemist, Messrs. Wm. Jessop & Sons, Ltd. *Signed by :* D. M. Bennett, E. Gertrude Turner, Arthur W. Chapman.

(b)**Parke, John Anthony Campbell,** H.S.C., Inter. B.Sc. British. 353, Norton Road, Stockton-on-Tees. Student, Hons. Chemistry Manchester University. *Signed by :* Colin Campbell, J. B. M. Herbert, G. N. Burkhardt.

‡**Pearce, Edwin Charles,** Fourth year student for A.R.I.C. British. 63, Berners Street, Lozells, Birmingham. Chemical and Metallurgical Laboratory work controlling steel heat treatment plant. *Signed by :* J. Newton Friend, J. Cooper Duff, R. J. Bithell.

†**Plesch, Peter Hardolf,** 2nd Class Hons. Chem. Nat. Sci. Tripos M.A. (Cantab), A.R.I.C. British. Cefoil, Ltd. Research Chemist. *Signed by :* C. W. Bonniksen, Archibald G. Clement, James S. Moffatt.

(b)**Robins, Peter Alan.** British. 46, Fitzjames Avenue, Croydon. Student of Chemistry at Imperial College of Science and Technology, South Kensington. *Signed by :* A. H. Cook, L. N. Owen, L. S. Theobald.

‡**Rowe, Norman Henry,** National Cert. Chemistry, 21 years same firm, routine and research laboratory. British. Santon, 59, Zig Zag Road, Liverpool, 12. Works Chemist, non-ferrous metals, general analytical work and plant control. *Signed by :* A. E. Findley, R. R. Butler, L. J. Burrage, A. McGookin.

(d)**Rowlands, Derek Peter,** B.Sc.Hons. (Sheffield). British. 25, Charnock Avenue, Wollaton Park, Nottingham. Analytical Chemist. *Signed by :* Brynmor Jones, E. Gertrude Turner, R. D. Haworth, Neville J. Cartwright.

‡**Rozsnyai, Dezider,** Chemical Engineer (Budapest). Czechoslovak. 92, Peter's Court, Porchester Road, W. 2. Research Worker and Technical Adviser. *Signed by :* A. G. Pollard, A. A. Eldridge, H. V. A. Briscoe.

‡**Rushworth, James.** British. Valley View, Cross Road, Keighley. Chemist. *Signed by :* F. R. Goss, J. W. Baker, H. Burton.

(d)**Sargent, Kenneth Henry.** British. 15, Ship Street, East Grinstead. Undergraduate at Royal College of Science, Chemistry Department. *Signed by :* H. J. T. Ellingham, L. S. Theobald, A. A. Eldridge.

†**Saunders, Sidney Walter,** B.Sc. and Ph.D. (Lond.). British. Cherwell, The Grove, Marton-in-Cleveland. Works General Manager. *Signed by :* M. P. Applebey, A. J. Prince, A. Fleck.

(b)**Smart, Jack.** British. 22, Newtown Street, Leicester. Reading for Special B.Sc. in Chemistry at University College, Leicester. *Signed by :* A. Pilgrim, L. Hunter, A. Hickling.

(d)**Somerville, Andrew Robertson,** B.Sc.Hons. (Glas.). British. Jessville, Cyprus Avenue, Johnstone. Chemist, *Signed by :* James Bell, J. W. Cook, F. R. Storrie.

‡**Stadler, August,** Ind.Dr.Tech. (Prague). Czechoslovak. 43, St. John's Avenue, Putney, S.W. 15. Research Chemist with the Aluminium Plant and Vessel Co. *Signed by :* Richard Seligman, Shuldham A. Burke, George Lewi.

‡**Stone, Horace Clifford,** B.Sc. (Birm.). British. Dinting Lodge, Glossop. Serving in R.A.F.V.R. as F/O. In peacetime, Schoolmaster. *Signed by :* A. E. Gillam, Edwin Young, T. H. Quibell.

Swallow, John Francis, B.A. and B.Sc. (Oxon). British. 24b, Lewisham Hill, Lewisham, S.E. 13. Research in Organic Chemistry. *Signed by :* W. W. Jones, T. M. Walters, A. E. Flood.

***Tindale, John,** M.P.S. British. 3, St. Ann's Staith, Whitby. Pharmacist. *Signed by :* J. W. Baker, H. Burton, E. Rothstein.

d)**Whitmore, Frank Edward,** B.Sc.Hons. (Birm.). British. 48, Hall Road, Handsworth, Birmingham, 20. Research Chemist. *Signed by :* S. R. Carter, F. J. Llewellyn, W. N. Haworth.

(a)**Whittaker, James,** Inter. B.Sc. (Lond.). British. 59, Lynthorpe Road, Blackburn. Student. *Signed by :* W. Taylor, F. Bell, J. E. Wynfield Rhodes.

†**Yardley, Edward Donald,** A.R.I.C. English. 20, Hertslet, Holloway, N. 7. Analytical Chemist at The British Drug Houses, Ltd. *Signed by :* Francis H. Carr, Noel L. Allport, P. G. Marshall.

Yellin, Henry, B.Sc. (Lond.). British (Palestinian). 28, Pandora Road, West Hampstead, N.W. 6. Organic Research Chemist, Bayer Products, Ltd. *Signed by :* H. Shapiro, R. S. Kahan, M. A. Phillips.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Eversole, James Frank,** B.A. (Missouri), M.Sc. and Ph.D. (Iowa). American. The Laboratory of The Linde Air Products Co., East Park Drive and Woodward Avenue, Tonawanda, New York. Superintendent of Research and Development Laboratory. *Signed by :* Foster Dee Snell.

* Reduced annual subscription.
† Three-body.
‡ Two-body.

(a) Student Membership two-body.
(b) Student Membership three-body.
(c) Junior Membership two-body.
(d) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between March 16th and April 20th, 1944. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The preparation and diazotisation of *N*-methyl-*p*-phenylenediamine." By H. H. Hodgson and E. Marsden.

"Photo-chemical reactions. Part VIII. Reaction of ethylenes with 1 : 2-diketones in sunlight. Part I. Experiments with phenanthraquinone." By A. Schonberg and A. Mustafa.

"Experiments on the synthesis of purine nucleosides. Part V. The coupling of pyrimidine derivatives with diazonium salts. A method for the preparation of 5-aminopyrimidines." By B. Lythgoe, A. R. Todd, and A. Topham.

"Experiments on the synthesis of purine nucleosides. Part VI. The synthesis of 9-*d*-xylosido-2-methyladenine and of 6-*d*-xylosidamino-2-methylpurine." By J. Baddiley, B. Lythgoe, and A. R. Todd.

"α-Methylenic reactivity in olefinic systems. Part I. The Prins reaction with propylene." By J. W. Baker.

"The vibrational spectra of acrylonitrile and perbunan." By H. W. Thompson and P. Torkington.

"The stereochemistry of organic derivatives of phosphorus. Part I. The synthesis of acidic and basic dissymmetric tertiary phosphines. The optical resolution of phenyl-*p*-carbomethoxyphenyl-*n*-butylphosphine sulphide." By W. C. Davies and F. G. Mann.

"A new reagent for primary and secondary aliphatic amines." By A. J. Birch.

"Diffusion potentials and mobilities of multivalent ions. Potassium ferricyanide and ferrocyanide." By E. B. R. Prideaux.

"The kinetics of anionotropic rearrangement. Part I. The rearrangement of propenylethynylcarbinol." By E. A. Braude and E. R. H. Jones.

"The formation of azo-compounds from *o*-nitrothiophenol and its methyl ether." By C. SIMONS and L. G. RATNER.

"On the mechanism of some ionic reactions in aqueous solutions." By J. WEISS.

"Spectroscopic evidence for the N–H–N bond in ethyleneimine." By H. W. THOMPSON and G. P. HARRIS.

"Preparation of some aminopyridoquinolines and their quaternary salts." By R. D. HAWORTH and W. O. SYKES.

"Clavatin, an antibacterial substance from *Aspergillus clavatus*." By F. BERGEL, A. L. MORRISON, A. R. MOSS, and H. RINDERKNECHT.

"Steric inhibition of resonance. Part I. The dichloronitrobenzenes." By G. THOMPSON.

"Steric inhibition of resonance. Part II. The *m*-xylidines and N-dimethyl-*m*-xylidines." By G. THOMSON.

"The constituents of natural phenolic resins. Part XX. The oxidation of ferulic acid." By N. J. CARTWRIGHT and R. D. HAWORTH.

"Evidence for the *iso*nitrile and nitrile structures of Hantzsch's aryl *syn*- and *anti*-diazocyanides." By H. H. HODGSON and E. MARSDEN.

"The vibrational spectra of the vinyl halides." By P. TORKINGTON and H. W. THOMPSON.

"The reduction-potentials of acridines with reference to their antiseptic activity." By B. BREYER, G. S. BUCHANAN, and H. DUEWELL.

TECHNOLOGY DEPT.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at the University of Sheffield, on Friday, May 12th, 1944, at 5.30 p.m.

The PRESIDENT, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair.

PROFESSOR J. I. O. MASSON, M.B.E., D.Sc., F.R.S., Vice-Chancellor of the University, extended a cordial welcome to the Society, and the PRESIDENT, in reply, expressed the pleasure the Officers and Council felt in receiving the invitation to visit Sheffield; he then welcomed the visitors present.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: Dorothy M. Bennett, Arthur W. Chapman, Thomas B. Smith, Alex. H. Lamberton, R. E. Davies, Robert C. Brian, Colin Lindley, D. Woodcock, J. P. Fletcher, Neville J. Cartwright, W. O. Sykes, Neville Smith, T. S. Harrison, and Brynmor Jones.

LECTURE.

The PRESIDENT then delivered his lecture on "Carbohydrates containing Nitrogen and other Elements."

At the conclusion of the lecture, a vote of thanks to the President was proposed by PROFESSOR R. D. HAWORTH, seconded by Mr. N. J. CARTWRIGHT, and carried with acclamation.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, May 18th, 1944, at 4.30 p.m.

The PRESIDENT, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Scientific Meetings of March 16th and 17th, 1944, and of the Annual General Meeting on April 20th, 1944, which had been circulated, were taken as read and were confirmed and signed. The minutes of the Scientific Meeting on May 12th were read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: Valentin S. Rawson, Chas. A. McDowell, R. Anker, H. M. Davies, H. G. Haynes, D. H. Widocks, J. A. Silk, J. L. B. Pitcher, L. R. Pittwell, J. W. Vernon, Paul Winter, H. B. Henbest, A. L. Levy, F. G. Holliman, and Miss S. J. Patterson.

TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Dr. F. G. Mann to deliver his Tilden Lecture entitled: "Some Aspects of the Organic Chemistry of Phosphorus and Arsenic."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by Professor J. W. Cook, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
William Martin Blanchard	1934	December 21st, 1942.
David Gwynne Davies	1932	April 12th, 1944.
John Simpson Ford	1889	March 27th, 1944.
Henry Winston Harper	1899	August 28th, 1943.
Frederick Richard Hollman	1891	March 13th, 1944.
Ernest John Parry	1892	April 30th, 1944.
John Keith Roberts	1935	April 26th, 1944.
Killed in Air Raid.		
Robert Owen Jones	1941	February 23rd. 1944.

CONGRATULATIONS.

The congratulations of the Council have been sent to the following:

(*a*) On completing 50 years of Fellowship on May 3rd, 1944: Mr. Robert W. Buttemer, Mr. George H. Gabb, Professor Matthew A. Parker, Mr. Edwin Terry.

(*b*) On election to Fellowship of the Royal Society on March 16th, 1944: Mr. Ronald P. Bell, Sir Jack Drummond, Professor R. D. Haworth, Dr. William O. Kermack, Professor Guy F. Marrian, Professor Michael Polanyi.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Messrs. S. Hoare Collins, T. Heap, J. A. Kitchener, H. E. Stevenson and Mrs. O. D. White, for gifts of publications of the Society, to Mr. F. C. Smith for a contribution to the Publications Fund, and to Messrs. Genatosan, Ltd., who have entered into a deed of covenant to contribute £25 a year to the Library for seven years.

LOCAL REPRESENTATIVE FOR LEEDS.

Dr. F. R. Goss has accepted the invitation of the Council to act as Local Representative for Leeds.

RESEARCH GRANT.

The Council have made a grant of £10 to Mr. E. L. Shimmin (Leeds University) for a research on "Substitution products of simple γ-pyrones."

HARRISON MEMORIAL PRIZE, 1944.

In accordance with the Trust Deed governing the Harrison Memorial Fund, the Selection Committee consisting of the Presidents of the Chemical Society, the Royal Institute of Chemistry, the Society of Chemical Industry and the Pharmaceutical Society, will proceed to make an award of the Harrison Memorial Prize in December 1944, subject to the condition that the Selection Committee shall be of opinion that there is a candidate of sufficient distinction to warrant an award of the Prize.

The Prize, not exceeding £150, will be awarded to the chemist of either sex, being a natural born British subject and not at the time over thirty years of age, who, in the opinion of the Selection Committee, shall, during the previous five years, have conducted the most meritorious and promising original investigations in Chemistry and published the results of those investigations in a scientific periodical or periodicals.

Applications, five copies of which must be submitted, should contain the following information:

(*a*) Name (in full).
(*b*) Age (Birth certificate must accompany application).
(*c*) Degrees (name of University where obtained).
(*d*) Other qualifications.
(*e*) Experience.
(*f*) Titles of published papers, with authors' names, including full references to publication.
(*g*) Where research was carried out.
(*h*) Testimonials and references.
(*i*) Any other particulars bearing on the application.

The Selection Committee is prepared to consider applications, nominations, or information as to candidates eligible for the Prize. Any such communication must be received by :

The President,
The Chemical Society,
Burlington House,
Piccadilly,
London, W.1.

not later than Friday, December 1st, 1944. Candidates must not be more than 30 years of age at this date.

APPEAL FOR PUBLICATIONS OF THE SOCIETY.

To assist in building up reserve stocks of publications that will be required to replace those lost by libraries, institutions and individuals as the result of enemy action, the Council will welcome gifts of publications of the Society from Fellows who do not need to retain them for reference purposes. The Council would particularly welcome gifts of the *Journal* for January 1943 and of the *Annual Reports* for 1942.

HONORARY FELLOWS.

The following letters have recently been received from Professor Nikolai Semenov and Professor Nikolai D. Zelinsky, who were elected Honorary Fellows of the Society on April 15th, 1943 :

"DEAR SIR,

"Please allow me to express my sincere thanks for the high honour bestowed upon me in being elected Honorary Fellow of the Chemical Society, one of the most authoritative organisations in world science.

"My election to the Chemical Society is a source of particular pleasure in view of the fact that for a number of years close ties of friendly scientific work and noble rivalry in disclosing the secrets of chemical dynamics have brought me into close contact with many English scientists.

"Yours truly,
N. SEMENOV."

"MY DEAR SIR,

"The letter by which you informed me of my being elected by the Council an Honorary Fellow of the Chemical Society reached me in October, but until now I was unable to answer it having been ill throughout the autumn and part of the winter.

"I wish to express to the Council and to you personally my deep gratitude for such a high appreciation of my scientific work.

"I consider it a great honour to be among the Honorary Fellows of a society so highly renowed for its scientific deserts.

"With cordial greetings.

"I am, my dear Colleague,"
"Yours sincerely,
"N. D. ZELINSKY."

FELLOWSHIP.

The following 163 candidates were elected Fellows of the Chemical Society on May 18th :

Henry Alexander.
Graham George Allen.
Robert Allen.
David John Alner.
Heinrich Rudolf Viktor Arnstein.
Peter Nathan Atlas.
James Albert Baker.
George Russell Ballantyne.
Arthur Ashton Banks.
Leslie William Desborough Barnes.
Philip Leigh Belshaw.
Gerhard Viktor Biberstein.
John Norman Blake.
John McColl Bremner.
Sidney Woolf Brickman.
Harold Frederick Brown.
Leslie Osgood Butler.
John Francis Byrne.
Thomas Geoffrey Carruthers.
John Anthony Carter.
John Whitaker Carter.
William Chalmers.
Percy Allan Charlesworth.
Vernon Leslie Smith Charley.
John William Clapp.
William Richard Ernest Clark.
Murray Frederick Clarke.
Frederick William Clulow.
Arnold Coulson Coates.
Francis Joseph Coll.
Thomas Llewellyn Coombs.
George Reginald Cornish.
Kenneth George Denbigh.
Kenneth Francis Walter Doughty.
Birendra Mohan Dutt.
Harold Egan.
Philip George Elias.
Alfred George David Emerson.
Dick Emsley.
Gilbert William Ettle.
Hywel Evans.
Ronald Major Evans.
James Frank Eversole.
Fred Fairclough.
Frank Fancutt.
Robert Harvey Farmer.
Reginald Victor Fenn.
Cyril Lindop Foxcroft.
John Berridge Fraser.
Raymond Stanley Max Frohnsdorff.
Mavis Evelyn Giles.
Maurice Ivan Gillibrand.

John Prebble Gordon.
James Ramsay Gray.
John Edward Gregory.
Francis Peter Grimshaw.
Donald Malcolmson Grudgings.
Erika Grunberg.
Hubert William Gurney.
Richard William Hall.
Stanley Hargreaves.
Peter Jack Hawkins.
Walter Hepworth.
Edward Hesford.
Donald Helmsley Hewitt.
Robert Heyworth.
John Charles Higgins.
William Charles Edward Higginson.
Alfred Grenville Hill.
Allan Hill.
William Hocknell.
Kenneth Wigfield Holmes.
Leslie Henry Alfred Holmes.
Roy Powell Hullin.
Ralph Hulme.
William Chalmers Hutchinson.
Emil Janousek.
Paul Jefferies.
William Parker Jennings.
Eric Millward Joiner.
Osman Jones.
Roy Kendal.
William Klyne.
Harold Lazell.
Olive Mary Leake.
Sarn Levin.
Philippe Arthur Lintern.
Allan Lofthouse.
Kenneth Alan Lord.
Thomas Love.
John Alexander McConnell.
John Heron McGill.
Kenneth Stuart McManus.
John Robert Maddocks.
Francis Thomas Maggs.
Frederick Ellison Marsh.
William Ramsay Menzies.
Francis Highland Milner.
Nandipate Mookerjea.
Leonard Munday.
George Murfitt.
Harry Charles Murfitt.
Moshé M. Neeman.
Anthony Armin Newman.
Arthur Frederick Bernard Norwood.
Graham Oldham.
Arthur Glynne Owen.
John Anthony Campbell Parke.
Robert Lewis Pawson.
Norman Berry Peake.
Edwin Charles Pearce.
Jack Pearson.
Ernest Frank Pellowe.
David Sheldon Penny.
Nathaniel Percy.
Norman Gray Perkins.
Peter Hardolf Plesch.
Michael Charles Pool.
John Edward Prue.
Ian Durham Rattee.
Robert Raw.
Vincent Richard Mansel Rees.
David John Roberts.
Peter Alan Robins.
Norman Henry Rowe.
Derek Peter Rowlands.
Dezider Rozsnyai.
James Rushworth.
William Alexander Rutherford.
Leo Edward Ryan.
Henry Leslie Salter.
Kenneth Henry Sargent.
Sidney Walter Saunders.
Mary Scott.
Victor Leslie Shatwell.
Jack Smart.
George Ransom Smith.
Kenneth Arnott Smith.
Andrew Robertson Somerville.
August Stadler.
Thomas Stenhouse.
Horace Clifford Stone.
John Francis Swallow.
Peter Sykes.
Alun Thomas.
John Tindale.
John M. Tinker.
John Martin Tweedy.
Alfred Harold Varcoe.
Joseph Ward.
James Waywell.
Beryl Westmoreland-White.
Eric Newman White.
Frank Edward Whitmore.
James Whittaker.
Kenneth Christopher Willson.
George Edward Wilson.
Robert Lawrence Wilson.
William Wilson.
John Arthur Wrenn.
William Elkington Wright.
Edward Donald Yardley.
Henry Yellin.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than June 12th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

†**Abbott, Leslie Stephen,** B.Sc.Hons. (Bristol), A.R.I.C. British. c/o Brabyn's House, Station Road, Marple. Research Chemist with Imperial Chemical Industries, Ltd. *Signed by :* H. D. Springall, E. B. Maxted, E. L. Hirst.

†**Adams, Henry,** A.R.I.C. British. 112, Sutton Passey's Crescent, Wollaton Park, Nottingham. Analytical Chemist. *Signed by :* D. O. Jordan, G. R. Barker, John C. Roberts, E. B. R. Prideaux.

†**Atherley, Samuel Walter,** B.Sc. (Lond.), F.R.I.C. British. 49, Kingsway Road, Leicester, Works Director. *Signed by :* C. Whitworth, J. M. Connolly, G. Malcolm Dyson.

(b)**Attenburrow, John,** B.Sc. (Lond.), A.R.C.S. British. c/o Glaxo Laboratories Ltd., Greenford. Research chemist at Glaxo Laboratories, Ltd. *Signed by :* F. A. Robinson, B. Arthur Hems, A. L. Bacharach.

(d)**Bach, Brian Boughton,** Inter. B.Sc. (Lond.). British. 47, Mossfield Road, King's Heath, Birmingham, 14. Chemical analyst. *Signed by :* K. Strauss, J. Cooper Duff, J. N. Friend.

(d)**Banks, Alan Marshall,** Inter. B.Sc. (Lond.), 1939, H.S.C. Physics and Chemistry main Subjects, 1937 and 1938. British. Clifton Villa, 93, Junction Road, Andover. Formerly a Chemist (Asst. III) in the Chemical Inspection Dept., Ministry of Supply, now a Sick Berth Attendant, R.N. (4 years service). *Signed by :* Arthur I. Vogel, G. H. Jeffery, C. A. Perry.

‡**Begley, Laurence Jordan,** B.Sc. (Leeds). British. Ditton, Widnes. Head Chemist with a firm of glue, gelatine and animal fats manufacturers. *Signed by :* G. J. Pritchard, J. G. Cockburn, K. T. Chapman.

†**Boot, Harold Laurence Gascoigne,** B.Sc. (Lond.), A.R.I.C., Assoc. M.Inst. Gas.E. British. 3, Westfield Park South, Bath. Chief Chemist, Bath Gas Company. *Signed by :* Arthur Marsden, Allan C. Monkhouse, Harold F. Barke.

†**Breaden, Thomas William** (M.Sc. Dublin), A.R.I.C. Irish. Wynberg, Stradbrook, Monkstown, Dublin. General Manager, E. McCormack & Co., Soap Manufacturers. *Signed by :* Thomas J. Nolan, A. G. G. Leonard, T. S. Wheeler.

(d)**Crofts, John Bruce,** B.Sc. (Lond.), A.R.I.C. British. 180, St. Leonard's Road, East Sheen, S.W. 14. Chemist for Ministry of Supply. *Signed by :* W. C. J. Ross, F. J. Kettel, W. A. Waters.

†**Cumberland, Frank Charles,** Ph.C., A.R.I.C., M.P.S. British. Edenholme, 10, Willow Trees Drive, Lammack, Blackburn. Works Chemist (supervising manufacture of medicinal preparations). *Signed by :* W. Taylor, G. Watson, J. E. Wynfield Rhodes.

†**Dalley, Paul,** B.Sc.Hons. (Leeds), A.R.I.C. British. 20, Woodyear Road, Bromborough, Wirral. Plant Control and Research Chemist. *Signed by :* George Brearley, Arnold T. Peters, J. W. Baker, Frederick M. Rowe, W. A. Wightman.

†**Davies, Rees Haydn,** B.Sc. (Wales). British. Derwen House, Rhyd-y-Fro, Pontardawe. Asistant Lecturer at University College of Swansea. *Signed by :* J. E. Coates, L. E. Hinkel, E. E. Ayling.

†**Fairbrother, Thomas Harold,** M.Sc. (Manc.), F.R.I.C. British. 17, Liskeard Gardens, Blackheath, S.E. 3. Director and Chief Chemist, McDougalls, Ltd. *Signed by :* E. H. Rodd, P. Chorley, A. Shepherdson.

(c)**Freestone, Philip Harry,** B.Sc.Hons. (Lond.), A.R.I.C. British. Daisy Bank, Hadfield Road, Hadfield, Manchester. Industrial Chemist. *Signed by :* John P. Allchin, Malcolm Crawford, H. L. Long.

(d)**French, Keith Harold Vernon,** A.R.I.C. British. 69, Queens Avenue, Finchley, N. 3. Research Chemist. *Signed by :* W. H. Hoffert, J. D. Davies, D. H. Richardson.

†**Gervis, Thomas Proctor,** B.Sc. (Lond.), A.R.I.C. British. 21, The View, Roundhay, Leeds, 8. Analytical Chemist. *Signed by :* Joseph M. J. Estevez, Ronald Wood, J. W. Baker.

***Glaser, George,** B.Sc.Hons. (L'pool). 93, Mulgrave Street, Liverpool, 8. Research for the degree of Ph.D. at the Department of Organic Chemistry, University of Liverpool. *Signed by :* F. Haworth, A. McGookin, Francis W. Kay.

‡**Graesser-Thomas, Frank Robert,** M.Sc. (L'pool). British. Curzon Park, Chester. Managing Director of Graesser Salicylates, Ltd. *Signed by :* Harold I. Price, A. McGookin, Frances W. Kay.

Hart, Horace Beament James, 1st Class Certificate Higher Grade Gas Engineering (Institution of Gas Engineers). British. 17, Netherhall Road, Baildon. Deputy Gas Engineer and Manager to the Shipley Urban District Council Gas Department. *Signed by :* Thos. E. Hubbard, Thos. Haworth, S. Tomlinson Jones.

†**Hartwell, Edward John,** Reading for the Final Honour School of Chemistry, Oxford. British. St. John's College, Oxford. Student. *Signed by :* H. W. Thompson, Ronald P. Bell, L. E. Sutton.

Haward, Robert Nobbs, B.A., Ph.D. (Cantab.). British. Colmore Adhesives, Ltd., Team Valley Trading Estate, Gateshead-on-Tyne. Research Chemist. *Signed by :* Joseph Weiss, Richard Raper, G. R. Clemo.

Heymann, Eric, Ph.D. (Frankfurt), D.Sc. (Melbourne). British. 478, St. Kilda Road, Melbourne, S.C. 2. Senior Lecturer in Physical Chemistry at the University of Melbourne. *Signed by :* J. S. Anderson, W. Davies, E. J. Hartung.

‡**Holland, Hubert Ernest,** 5 yrs. Parke Davis & Co., 4 yrs. B.D.H., 25 yrs. present position. Member, Society of Chemical Industry, Member, British Association of Chemists. British. 51, Lynwood Road, Ealing, W.5. Chief Chemist, Hayes Cocoa Co., Ltd. *Signed by :* E. C. C. Baly, A. E. Dunstan, D. M. Freeland.

(c)**Hollis, Gordon Latham,** B.Sc. (Sheffield). British. 12, Westbourne Grove, Barnsley. Research Chemist. *Signed by :* G. B. Pickering, E. B. Johnson, C. M. C. Dorkin.

†**Houghton, John Venables,** B.Sc.Hons. (Lond.). British. 8, Harman Drive, N.W. 2. Pilot Officer, R.A.F., formerly works chemist in a Royal Gunpowder Factory for 7 years. *Signed by :* Henry Terrey, H. G. Poole, C. K. Ingold.

***Jagger, Doreen May,** B.Sc.Hons. (Leeds). British. Mervale, Blairsville Gardens, Bramley, Leeds. Studying for Diploma in Education. *Signed by :* W. A. Wightman, J. W. Baker, Frederick Challenger.

†**Johnson, Alfred Henry Osborne,** B.Sc. (Lond.), A.R.I.C., A.M.I.Chem.E. British. 26a Hervey Road, Blackheath, S.E. 3. Experimental Officer, Ministry of Supply. *Signed by :* J. W. Roe, Fred Hudswell, Frank Holden.

‡**Kay, Arthur William,** B.Sc.Hons. (Lond.). British. 23, The Riding, Kenton, Newcastle-on-Tyne, 3. Director and Works Manager of Scott & Turner, Ltd., Pharmaceutical & Food Manufacturers. *Signed by :* B. C. L. Summers, W. Gordon Carey, J. H. Robson.

King, Harold Campbell, B.Sc. (Lond.), A.R.I.C. British. 32, Phrosso Road, Worthing, Research Chemist. *Signed by :* J. N. Agar, G. E. Watts, T. J. Morrison.

‡**Kroch, Falk Heinz,** Ph.D. (Berlin). German (Refugee from Nazi oppression). Burford, Broad Oak Road, Worsley. Research Chemist and Company Director. *Signed by :* Kenneth Tomlinson, E. Marshall Meade, A. Wolf.

***Lerrigo, Roy William,** B.Sc. (Lond.), A.R.C.S. British. The Homestead, Hooton, Wirral. Organic Research Chemist. *Signed by :* Denis H. Marrian, Philip J. Garner, P. A. Winsor.

(a)**Mallows, Leslie Albert Stanley.** General and Higher School Certs. (University of London). British. 47, Sketty Park Road, Sketty, Swansea. Student (proceeding to Honours Degree in Chemistry). *Signed by :* J. E. Coates, L. E. Hinkel, E. E. Ayling.

†**Marmoy, Frank Bentley Ridgen,** A.R.I.C. British. 1, Ray Drive, Maidenhead. Research Chemist (Analytical) employed by Ashe Laboratories, Limited. *Signed by :* Wm. E. Gaunt, S. J. Watson, R. Leslie Collett.

‡**Martin, Clifford,** B.Sc.Hons. (Sheffield). British. 2, The Crescent, Ketton, Stamford. Analytical Chemist with a Cement Company. *Signed by :* Brynmor Jones, J. C. Speakman, E. Gertrude Turner.

(d)**Menzies, John,** B.Sc. (Glas.), A.R.T.C. British. The Garden Lodge, Seamill Home, West Kilbride. Works Chemist. *Signed by :* Henry G. A. Anderson, A. B. Crawford, Ezra Golombok.

Messinger, Charles Samuel, B.A. (Lafayette). U.S.A. Cosmic Crayon Co., Ltd., Bedford. Company Director. *Signed by :* W. M. Seaber, L. A. Jordan, A. C. Davall, S. H. Bell.

(d)**Mitchell, Ralph Edward,** B.Sc. (Lond.), A.R.I.C. British. 4, Radley Road, N. 17. Chemist with W. J. Bush & Co., Ltd. *Signed by :* Percy C. C. Isherwood, H. W. Vernon, A. J. M. Bailey.

(d)**Moses, Bernard Cecil,** B.Sc. (Lond.), A.R.I.C. British. 67, Sanghall Massie Road, Upton, Wirral. Analytical Chemist at Messrs. Lever Bros., Ltd. *Signed by :* A. E. Findley, R. R. Butler, Frank W. Mitchell.

***Moy, John Arthur Edgar,** B.A. and B.Sc. (Oxon), A.R.I.C. British. Mindaroo, Garrad's Road, Streatham, S.W. 16. Assistant Chemist, Anglo-Iranian Oil Co., Ltd. *Signed by :* Ronald P. Bell, Richard Barrow, R. M. Lodge.

Nicholls, James Harold, B.A. (Oxon), supplicant for B.Sc. British. 38, Tewkesbury Avenue, Davyhulme, Manchester. Research Chemist. *Signed by :* R. M. Lodge, A. G. Catchpole, J. O. Cutter.

‡**Peerman, Harold Leslie,** B.Sc.Hons. (Manc.). British. 115, Heaton Road, Heaton Norris, Stockport. Research and Process Chemist at Chas. Lowe & Co. *Signed by :* Colin Campbell, J. B. M. Herbert, H. T. Openshaw.

‡**Platt, Benjamin Stanley,** B.Sc.Hons., M.Sc., Ph.D., M.B., Ch.B.Hons. (Leeds). British. National Hospital, Queen Square, W.C. 1. Member of Scientific Staff of the Medical Research Council. *Signed by :* H. Raistrick, A. L. Bacharach, J. H. Birkinshaw.

†**Pugh, Clifford,** B.Sc.Hons. (Lond.), A.R.I.C. British. Flanders House, Panfield Lane, Braintree. Research Chemist for Messrs. Courtaulds, Ltd. *Signed by :* Jas. H. McGregor, T. J. Drakeley, F. Courtney Harwood, R. F. West.

Rabnott, Ronald Alfred, Subsidiary subject (Physics) for a special degree in Chemistry (not yet taken owing to war conditions), 13 years experience in analytical Chemistry. British. 25, Grafton Road, Worcester Park. Partner in Salamon & Seaber (Consulting and Analytical Chemists). *Signed by :* W. M. Seaber, A. C. Davall, Percy Edgerton.

Reed, Ronald Arthur, B.Sc. (Lond.), F.R.I.C. British. 34, The Woodlands, Hither Green, S.E. 13. Research Chemist. *Signed by :* W. Johnson, E. de Barry Barnett, R. Leslie Collett.

(d)**Roberts, Fred,** B.Sc.Hons. (Leeds), A.R.I.C. Post Graduate Dip. in Fuel Tech. (Leeds). British. 28, St. Clements Road, Harrogate, Junior Fuel and Combustion Engineer to the Ministry of Fuel and Power. *Signed by :* J. W. Baker, Frederick Challenger, W. A. Wightman.

†**Ronca, James Francis,** A.R.C.S., A.R.I.C., Assoc. Member Instn. Automobile Engineers, Fellow Inst. Fuel. English. 22, The Downs, Wimbledon, S.W. 20. Retired (late Director of Gas Administration, Board of Trade). *Signed by :* F. H. Garner, H. Hollings, E. W. Smith.

(c)**Ross, Douglas Macintosh,** B.Sc.Hons. (Glas.). British. 12, Glamis Avenue, Broom Estate, Newton Mearns. Research Chemist. *Signed by :* J. W. Cook, S. Horwood Tucker, C. Buchanan.

Salamé, Lawrie William Frederick, B.Sc. (Lond.), A.R.C.S. British. Research Chemist. *Signed by :* Alan A. Goldberg, H. S. Turner, W. Kelly.

†**Scoffam, Charles Edward,** A.R.I.C. British. 185, Aubrey Road, Small Heath, Birmingham, 10. Research Chemist. *Signed by :* T. T. Jones, J. Sheridan, E. G. K. Pritchett.

‡**Service, William Leith,** B.Sc. (Lond.). British. 19, Hope Street, Blackhill. Analytical Chemist to Consett Iron Co., Ltd. *Signed by :* E. A. Bowes, Michael Staples, J. Stewart Cook.

‡**Shawarbi, Mahmoud Yousef,** B.Sc. (Wales), Ph.D. (Lond.), D.I.C. Egyptian. 50, Alexandra Court, Wembley Park. Lecturer, Cairo University, on leave, Research Worker at the Imperial College. *Signed by :* A. G. Pollard, A. A. Eldridge, H. J. T. Ellingham.

Smith, Stanley Walter, B.Sc. (Bristol). British. The Lodge, 10, Priory Street, Cheltenham. Chemist. *Signed by :* E. B. Maxted, T. Malkin, H. D. Springall, J. K. N. Jones.

†**Stanton, Ronald Ernest.** English. 63, Maybank Avenue, Elm Park, Romford. Analytical Chemist. *Signed by :* W. R. Burnham, R. F. Bromley, F. L. Allen.

(b)**Stewart, George Alexander,** Inter. B.Sc. (Lond.). British. 16, Irving Place, Blackburn. Student, Blackburn Municipal Technical College. *Signed by :* W. Taylor, J. E. Wynfield Rhodes, K. A. Williams.

(c)**Stewart, William Gray,** B.Sc. (Glas.), A.R.I.C. British. Willdene, 4, Dunchurch Road, Oldhall, Paisley. *Signed by :* J. W. Cook, F. R. Storrie, James Bell.

(b)**Stokes, John Huntley George.** British. 260, Moor Green Lane, Moseley, Birmingham, 13. Technician, Ministry of Health. *Signed by :* John P. Allchin, J. Newton Friend, J. Cooper Duff.

Stubbs, Alan, A.M.Tech.I. (Gt. Brit.). British. 20, Davenport Street, Tunstall, Stoke-on-Trent. Royal Navy. Previous occupation, Control chemist, assistant chemical engineer. *Signed by :* F. J. Bolton, E. G. V. Percival, W. L. Glen.

Turnbull, Nicholas Hume, M.Sc. (Melbourne). 10, St. Georges Road, Toorak, S.E. 2, Melbourne, Victoria. Research Chemist, Nicholas Pty., Ltd., pharmaceutical manufacturers. *Signed by :* Adrien Albert, W. Davies, H. H. Hatt.

***Vernon, Charles Albert,** B.Sc.Hons. (Lond.), A.R.I.C. British. Experimental Officer, Ministry of Supply. *Signed by :* W. M. Wolf, A. Audsley, D. E. Hughes.

‡**Walker, John,** A.R.I.C. British. Castledene, 16, Lynwood Grove, Audenshaw, Manchester. Chemist, The Clayton Aniline Co. *Signed by :* G. Spencer, J. Lockett, D. S. Stephens.

(a)**Waller, John George.** British. 10, Mereworth Drive, Plumstead, S.E. 18. Student, completing final year for degrees. *Signed by :* L. N. Owen, E. R. H. Jones, A. H. Cook.

†**Ward, Frank,** A.R.I.C. English. 2, Bowland Avenue, Gorton, Manchester, 18. Analytical Chemist. *Signed by :* G. Spencer, D. S. Stephens, C. G. Childs.

Ward, Robert Vincent, Registered Dentist. Passed 1st and 2nd L.D.S. exams. of Liverpool University, Scholarship in Mechanical Dentistry, 1927, Prizeman in operative Dental Surgery, 1927, passed in Chemistry and Physics in 1st Dental at Liverpool University, also Member of the Society of Dental Anæsthetists, 1943. British. Main Street, Ballymoney, Co. Antrim. Dentist. *Signed by :* Thomas J. Nolan, A. G. G. Leonard, A. O'Farrelly.

†**Weir, Walter Jackson,** A.R.I.C. British. Hermiston, 16, West Doura Avenue, Saltcoats. Managing Chemist. *Signed by :* D. Routledge, Peter F. Ward, R. Leslie Collett.

(b)**Whalley, Edward.** British. Claremonte, Oldfield Avenue, Darwen. Student. *Signed by :* A. A. Eldridge, L. S. Theobald, H. J. T. Ellingham.

***White, Alan Gilbert,** B.Sc.Hons. (Bristol). British. 48, Fanshawe Crescent, Ware. Assistant Research Chemist to Messrs. Allen & Hanburys, Ltd. *Signed by :* J. Kenyon, N. Jones, L. A. Wiseman, T. Malkin, N. H. Woodbury, H. D. Springall.

‡**White, Edmund Dennis,** B.Sc.Hons. (Manc.). British. 67, Thursby Road, Burnley. Research Chemist to I.C.I. *Signed by :* F. S. Spring, A. R. Todd, Colin Campbell.

†**Wishart, George,** A.R.I.C., A.H.W.C., Diploma of The Heriot Watt College, Edinburgh. British. Winfield, Bathgate, West Lothian. Work's Manager, Pressure Lubricants, Ltd. *Signed by :* Robert G. M. Dakers, Hugh B. Nisbet, James Sandilands.

‡**Wolff, Arthur,** Ph.D. (Berlin). German (Refugee from Nazi oppression). 11, Granville Avenue, Broughton Park, Salford, 7. Research Chemist. *Signed by :* E. Marshall Meade, Kenneth Tomlinson, A. Wolf.

†**Wraight, Norman Baldwin,** B.Sc. (Lond.), A.R.I.C. British. 9, Darlington Road, Hartburn, Stockton-on-Tees. Assistant Research Chemist. *Signed by :* Donald McNeil, A. J. Prince, M.P., Applebey.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Krumm, Harold Evershed,** A.R.I.C., F.R.A.S. National of the Union of South Africa. Sonnenscheim, Leeuwendal Crescent, Cape Town. Chief Chemist, African Metals Corporation, Ltd. *Signed by :* Louis P. Bosman.

Sorg, Leonard V., M.A. (Kansas City). American. 5811, Wayne Avenue, Kansas City, 4, Missouri. Supervisor of Research, Standard Oil Co., Sugar Creek, Mo. Lecturer in Chemistry, The University of Kanasas City. *Signed by :* James A. Austin.

* Reduced annual subscription.
† Three-body.
‡ Two-body.

(a) Student Membership two-body.
(b) Student Membership three-body.
(c) Junior Membership two-body.
(d) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between April 20th and May 18th, 1944. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Note on vitamin A aldehyde (axerophthal)." By E. G. E. HAWKINS and R. F. HUNTER.
"Pyrrole trimethin cyanines." By A. H. COOK and J. R. MAJER.
"The preparation of some indole trimethin cyanines." By A. H. COOK and J. R. MAJER.
"An extension of the Ehrlich reaction." By A. H. COOK and J. R. MAJER.
"Quinoxaline cyanines. Part IV. Some halogenated styryl derivatives." By R. M. ANKER and A. H. COOK.
"The structure of monomethylene *d*-glucosaccharolactone." By W. G. M. JONES and L. F. WIGGINS.
"The synthesis of dimethylene dimethyl *l*-idosaccharate." By W. G. M. JONES and L. F. WIGGINS.
"Colchicine and related compounds. Part III." By J. W. COOK, W. GRAHAM, (in part) A. COHEN, R. W. LAPSLEY, and (the late) C. A. LAWRENCE.
"Colchicine and related compounds. Part IV. Synthesis of 2 : 3 : 4 : 5-, 2 : 3 : 4 : 6-, and 2 : 3 : 4 : 7-tetramethoxy-9-methylphenanthrenes." By G. L. BUCHANAN, J. W. COOK, and J. D. LOUDON.
"The condensation of chrysene with succinic anhydride." By J. W. COOK, and W. GRAHAM.
"The influence of alkyl groups upon reaction velocities in solution. Part V. The formation of phenyltrialkylammonium iodides in methyl alcohol." By D. P. EVANS.
"Hydroacridones. Synthesis and dehydrogenation." By R. A. REED.
"The preparation of some halogenonaphthylamines, dihalogenonaphthalenes, 2-bromo-1-naphthol, and related derivatives." By H. H. HODGSON and D. E. HATHWAY.
"Note. Re-solution from interfacial adsorbed layers." By C. C. ADDISON.
"Some observations on the photochemistry of fluorescent substances. Part I. The quenching of fluorescence by nitric oxide and the photochemical formation of nitroxides." By H. WEIL-MALHERBE and J. WEISS.
"Some observations on the photochemistry of fluorescent substances. Part II. Concentration quenching (self-quenching) of fluorescence." By J. WEISS and H. WEIL-MALHERBE.
"The properties of freshly formed surfaces. Part III. The mechanism of adsorption, with particular reference to the *sec.*-octyl alcohol–water system." By C. C. ADDISON.
"The reaction between amines and unsaturated compounds containing halogen attached to one of the ethylenic carbon atoms. Part III. The influence of a *gem*-dimethyl group." By H. C. MURFITT and J. C. ROBERTS.
"The reduction of quinaldinic acid at the dropping mercury cathode." By J. T. STOCK.
"The metal-catalysed reaction between acetylene and hydrogen. Part I. Nickel catalysts." By J. SHERIDAN.
"The kinetics of aniontropic rearrangement. Part II. Medium effects in the oxotropy of propenylethynylcarbinol. The determination of *iso*dielectric energies of activation." By E. A. BRAUDE.
"The alkaloids of *Duboisia leichhardtii*." By W. MITCHELL.
"The sterols of *Calycanthus floridus*." By J. W. COOK and M. F. C. PAIGE.

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June, 1944

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

PUBLIC LIBRARY
AUG 18 1944
DETROIT

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Herbert Dearman Bell	1920	March 2nd, 1944
George Stallard	1879	April 5th, 1944

MEETING OF SOVIET SCIENTISTS.

In reply to a cable received from the Soviet Scientists Antifascist Committee:

"THIRD ANTIFASCIST MEETING SOVIET SCIENTISTS WILL BE HELD SUNDAY JUNE EIGHTEENTH SEVENTEEN-THIRTY P.M. MOSCOW TIME. AIM MEETING IS DISCUSS CRIMES GERMAN FASCIST INVADERS AGAINST SCIENCE AND WORK RESTORATION SCIENTIFIC RESEARCH AND CULTURAL INSTITUTIONS LIBERATED AREAS. PROCEEDINGS MEETING WILL BE BROADCAST.

"SOVIET SCIENTISTS ANTIFASCIST COMMITTEE TAKES THIS OPPORTUNITY CONVEY GREETINGS SCIENTISTS YOUR COUNTRY FROM SCIENTISTS SOVIET UNION. WE HOPE COLLABORATION AND SOLIDARITY MEN SCIENCE WILL SPEED VICTORY UNITED NATIONS OVER GERMAN INVADERS—MOST VICIOUS ENEMIES MANKIND AND PERSECUTORS SCIENCE AND CULTURE.

"SIGNED ON BEHALF SOVIET SCIENTISTS ANTIFASCIST COMMITTEE ACADEMICIANS N DERZHAVIN P KAPITSA MOSCOW."

the following message has been sent:

"On behalf of the Chemical Society we, the President, Officers, and Council, send from Great Britain hearty thanks to our colleagues in U.S.S.R. for greetings received, and best wishes for meeting on June 18th.

"We hail your message with sympathy, and trust that full restitution will be demanded from the aggressors. We echo your hopes that collaboration between men of science may hasten victory of Allies and the complete deliverance of all countries from the invader.

"With cordial greetings, W. N. HAWORTH, *President.*"

CONGRATULATIONS.

The congratulations of the Council have been sent to Messrs. George Dixon, Arthur Hadley, and Ernest Brooke Pike, who completed 50 years of Fellowship on June 7th, 1944.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Messrs. E. J. Leeming and P. A. Winsor for gifts of publications of the Society.

RESEARCH GRANT.

The Council have made a grant of £15 to Dr. E. M. Meade for a research on "Asymmetry of tervalent nitrogen."

COMMITTEES.

The Council have conveyed their thanks to the retiring members of Committees for the services they have rendered to the Society.

The following Committee have been appointed for 1944–1945:

Finance and General Purposes Committee.

F. H. Carr, A. E. Dunstan, Sir Alfred Egerton, G. I. Finch, W. H. Mills, R. G. W. Norrish, Sir Robert Pickard, R. E. Slade, together with the Officers, the Chairman of the Publication Committee and the representative of the Joint Library Committee on the Council of the Chemical Society. The President as Chairman, Treasurer as Vice-Chairman, and the General Secretary as Secretary.

Publication Committee.

T. S. Moore as Chairman, N. K. Adam, A. J. Allmand, M. P. Applebey, R. P. Bell, E. J. Bowen, J. E. Coates, J. W. Cook, E. G. Cox, H. J. Emeléus, C. R. Harington, R. D. Haworth, T. A. Henry, D. H. Hey, E. L. Hirst, C. K. Ingold, D. J. G. Ives, E. R. H. Jones, J. Kenyon, F. G. Mann, H. W. Melville, H. Raistrick, A. Robertson, J. L. Simonsen, J. C. Smith, H. W. Thompson, A. R. Todd, together with the Officers, and the Editor as Secretary.

Research Fund Committee.

N. K. Adam, A. J. Allmand, J. E. Coates, J. W. Cook, I. M. Heilbron, H. McCombie, J. Kenyon, Sir Robert Robinson, A. R. Todd, together with the Officers. The Presdent as Chairman, and the General Secretary as Secretary.

Publications Exchange Committee.

A. J. Allmand, H. Bassett, J. Kenyon, G. A. R. Kon, together with Dr. T. A. Henry (ex-officio representative of the Joint Library Committee on the Council) and the Officers, with the Librarian as Secretary.

APPOINTMENT OF LIBRARIAN.

The Council have appointed Mr. A. E. Cummins as Librarian of the Chemical Society.

FELLOWSHIP.

The following 74 candidates were elected Fellows on June 15th :

Leslie Stephen Abbott.
Henry Adams.
Samuel Walter Atherley.
John Attenburrow.
Brian Boughton Bach.
Alan Marshall Banks.
Laurence Jordan Begley.
Harold Laurence Gascoigne Boot.
Thomas William Breaden.
John Bruce Crofts.
Frank Charles Cumberland.
Paul Dalley.
Rees Haydn Davies.
Thomas Harold Fairbrother.
Philip Harry Freestone.
Keith Harold Vernon French.
Thomas Proctor Gervis.
George Glaser.
Frank Robert Graesser-Thomas.
Horace Beament James Hart.
Edward John Hartwell.
Robert Nobbs Haward.
Eric Heymann.
Hubert Ernest Holland.
Gordon Latham Hollis.
John Venables Houghton.
Doreen May Jagger.
Alfred Henry Osborne Johnson.
Arthur William Kay.
Harold Campbell King.
Falk Heinz Kroch.
Harold Evershed Krumm.
Roy William Lerrigo.
Leslie Albert Stanley Mallows.
Frank Bentley Ridgen Marmoy.
Clifford Martin.
John Menzies.
Charles Samuel Messinger.
Ralph Edward Mitchell.
Bernard Cecil Moses.
John Arthur Edgar Moy.
James Harold Nicholls.
Harold Leslie Peerman.
Benjamin Stanley Platt.
Clifford Pugh.
Ronald Alfred Rabnott.
Ronald Arthur Reed.
Fred Roberts.
James Francis Ronca.
Douglas Macintosh Ross.
Lawrie William Frederick Salamé.
Charles Edward Scoffam.
William Leith Service.
Mahmoud Yousef Shawarbi.
Stanley Walter Smith.
Leonard V. Sorg.
Ronald Ernest Stanton.
George Alexander Stewart.
William Gray Stewart.
John Huntley George Stokes.
Alan Stubbs.
Nincholas Hume Turnbull.
Charles Albert Vernon.
John Walker.
John George Waller.
Frank Ward.
Robert Vincent Ward.
Walter Jackson Weir.
Edward Whalley.
Alan Gilbert White.
Edmund Dennis White.
George Wishart.
Arthur Wolff.
Norman Baldwin Wraight.

GENERAL ANNOUNCEMENT

COLONIAL RESEARCH FELLOWSHIPS.

The Secretary of State for the Colonies has been considering ways and means of encouraging scientists to give special attention to problems of Colonial interest. On the advice of the Colonial Research Committee he has now decided to institute a number of " Colonial Research Fellowships," which will be open to qualified scientists, whether in the natural or in the social sciences, to enable them to pursue research work in the Colonial Empire. The Fellowships will normally be for two years, and the Secretary of State hopes that Universities and other research institutions will be willing to grant applicants, if already members of their staffs, leave of absence for this period in order to enable them to take up the Fellowships. Provision has been made for 25 such Fellowships within the next five years. It is recognized that war-time shortages of personnel will restrict the immediate applicability of the scheme; it is, however, being brought into force immediately, in case there are suitable candidates in any part of the Empire who are not at present required for urgent war-time work.

2. The award of these Fellowships will be made by the Secretary of State, on the advice of the Colonial Research Committee.

Qualifications of Applicants.

3. The Fellowships will normally be reserved for University graduates under 35 years of age from any part of the British Commonwealth and Empire. Candidates must already have had some experience of research, and must have given evidence that they have the ability to plan and prosecute investigations of a high quality without close and constant supervision.

Terms of Award.

4. The Fellowships will be tenable normally for a period of two years provided that the Fellow's report from his supervisor at the end of the first year is satisfactory, and may be extended for a third year at the discretion of the Secretary of State.

5. The Fellowships carry a basic allowance of £400 per annum, which may be increased to a sum not exceeding £600 per annum if the Fellow is married, or in other appropriate circumstances. Travelling expenses and the cost of any special apparatus or material required for the Fellow's research will also be provided. Where a Fellow is a member of a superannuation scheme in which his employer pays part of the contributions, the Secretary of State will, if necessary, also take over the employer's contributions for the duration of the Fellowship.

6. Fellowships will be tenable in any part of the British Colonial Empire. Where practicable, Fellows will be attached to centres of higher education in the Colonies and may be required to give occasional lectures of general interest on their subject for the benefit of the students attending courses at such centres.

7. During his tenure a Fellow shall be responsible to a supervisor selected by the Secretary of State. If the supervisor is not resident in the territory visited, the Secretary of State may appoint, in consultation with him, a deputy supervisor in that territory or in a neighbouring territory.

8. The Fellow shall submit through his supervisor a concise progress report at the end of each year of his tenure, and a full report of his researches within a reasonable time on the completion of his tenure.

9. The award will be conditional upon the candidate being certified as medically fit for the type of work to be undertaken.

Applications.

10. Applications should be addressed in the first instance to

The Secretary,
The Colonial Research Committee,
Colonial Office,
Downing Street,
London, S.W. 1.

and they should state the applicant's age, nationality, educational history, occupational history, and experience of research, and should indicate the precise nature of the problem on which the candidate wishes to do research. They should bear the endorsement of the Head of the College or research institute to which the candidate is attached, or of some other responsible person.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than July 17th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

(b) **Andrew, Thomas Ralph,** Inter. B.Sc. (Lond.), Higher National Certificate in Chemistry. British. 37, Harefield Road, Coventry. Laboratory Assistant. *Signed by :* J. H. Burton, J. L. Borthwick, Beryl Westmoreland-White.

† **Baker, Leslie Charles,** M.Sc. (Lond.), A.R.I.C. British. 11, Greystokes Court, Hanger Lane, Ealing, W.5. Chemist to J. Lyons and Co. *Signed by :* Leslie H. Lampitt, E. B. Hughes, T. L. Parkinson.

Barnes, Stanley Bernard Philpott, M.P.S. British. 12a, Kingsdown Park, Tankerton. Managing Director and Chief Chemist of Rybar Laboratories, Ltd., Tankerton. Engaged in supervision of manufacture and analytical control of pharmaceutical products. Research in improved methods of preparation and standardisation of endocrine products. Study of preparation for relief of asthma in collaboration with medical colleague. *Signed by :* Chas. H. Maile, R. V. Fenn, F. H. Webb.

† **Barraclough, Charles Edmund,** B.Sc.Hons. (Lond.), A.R.C.S., A.R.I.C. British. c/o 193, Hook Road, Epsom. Research Chemist to the Distillers Co., Ltd. *Signed by :* H. B. Hutchinson, J. G. Maltby, E. Horton.

† **Bate, Reginald Noel,** B.Sc.Hons. (Manc.), A.R.I.C. British. 27, Granary Lane, Worsley, Nr. Manchester. Senior Science Master at Farnworth Grammar School. *Signed by :* E. Moor, A. Topham, R. Hull.

†**Callow, Raphael Heber,** M.Sc. (L'pool), A.R.I.C. British. Tweedside, Ashley Road, Hale. Works Manager. *Signed by :* W. P. Ford, Hugh C. Freeman, G. W. Martin.

†**Clay, Herbert Frank,** A.R.I.C., A.M.I.Chem.E. British. c/o Cromford Colour Co., Ltd., Matlock. Chemist. *Signed by :* Eric S. Gyngell, J. Markland, D. T. Sarfas.

Colville, John Foggan, B.Sc.Hons. (Dun.). British. c/o Miss Rankine, 5, Comely Park Terrace, Falkirk. *Signed by :* G. R. Clemo, R. Raper, G. A. Swan.

†**Duddington, Jack Ernest,** A.M.C.T., A.R.I.C. British. 241, Bury Road, Rawtenstall, Rossendale. Assistant Chemist, *Signed by :* T. L. Houghton, T. K. Walker, J. Ronald Hinchley.

†**Edwards, George Esau,** B.Sc. (Glas.), A.R.I.C. British. Post Office, Cleland, Lanarkshire. *Signed by :* W. M. Cumming, F. Rumford, W. A. Alexander.

(b)**Ellis, Drummond,** B.Sc.Hons. (Glas.). British. 47, Battlefield Avenue, Glasgow, S. 2. Research Student. *Signed by :* J. W. Cook, James Bell, T. S. Stevens.

†**Epworth, Frederick William,** B.Sc.Hons. (Lond.), A.R.I.C. British. 19, Park Grove, Shipley. Chemical Inspection Dept., Ministry of Supply. *Signed by :* W. Siddall, A. Wexler, D. Plews.

‡**Green, Leonard Henry Grantly.** British. 37, Witchell Road, Redfield, Bristol, 5. Analytical Chemist. *Signed by :* E. B. Maxted, E. L. Hirst, T. Malkin, J. K. N. Jones, Arthur Marsden.

†**Houghton, Albert Aubrey,** B.Sc. and Ph.D. (Lond.), D.I.C., F.R.I.C. British. Rowanhurst, Grove Road, Beaconsfield. Chief Chemist to Fredk. Boehm, Ltd. *Signed by :* D. C. Mandeville, H. E. Cox, R. Leslie Collett.

***Huang, Rayson,** B.Sc. (Hongkong). Chinese. Magdalen College, Oxford. Student. *Signed by :* Ronald P. Bell, R. Robinson, J. T. L. Loo.

(a)**Hyland, John Graham,** B.Sc. (Lond.), A.R.C.S. British. Cove Down, Cove, Tiverton. Post graduate course in chemical engineering for chemists at Imperial College. *Signed by :* L. N. Owen, A. C. Egerton, M. B. Donald.

(a)**Immerwahr, Werner Adolf Martin,** B.Sc. (Lond.). Stateless, formerly German. 21, Collingwood Avenue, Muswell Hill, N. 10. Research Chemist. *Signed by :* D. J. G. Ives, F. J. Llewellyn, F. Barrow.

***Knight, Raymond Dennis,** Matriculation (Lond.). British. 23, Thirlestane Road, Far Cotton, Northampton. Student. *Signed by :* D. Plews, W. Siddall, A. Wexler.

***Langdon, Brian James.** Reading for honours degree in Chemistry at Oxford. British. Magdalen College, Oxford. Student. *Signed by :* Ronald P. Bell, F. E. King, L. E. Sutton.

†**Lewis, Arnold Herbert,** B.Sc. and Ph.D. (Lond.), F.R.I.C. British. Elmwood, Boulters Lane, Maidenhead. Research Chemist. *Signed by :* Wm. Cullen, A. G. Pollard, S. J. Watson.

McCoubrey, Arthur, B.Sc. (Lond.), M.P.S. British. 50, Southview Drive, Upminster. Junior Research Chemist. *Signed by :* Julius N. Ashley, Geo. L. Buchanan, A. Campbell.

Mills, Leonard Walter, M.P.S., M.R.San.I., M.R.I.P.H.H. British. 16, Badminton Road, Downend, Bristol. Chemist and Druggist. *Signed by :* David J. Williams, Arthur Marsden, H. T. S. Britton.

†**Muddiman, Ernest Walter,** B.Sc. (Lond.), F.R.I.C. British. 2, Fellside Terrace, Stanley, Co. Durham. Chief Chemist, Holmside and South Moor Collieries, Ltd. *Signed by :* Richard Raper, H. L. Riley, A. Crawford.

†**Nicol, Hugh,** B.Sc.Hons., M.Sc. and Ph.D. (Lond.), F.R.I.C. British. 35, Tennyson Road, Harpenden. Senior Scientific Assistant, Imperial Bureau of Soil Science. *Signed by :* F. Tattersfield, George W. Cooke, H. M. Davies.

***Peacocke, Arthur Robert.** Studying for Honours Degree in Chemistry. British. 74a, Queens Avenue, Watford. Student at Exeter College, Oxford. *Signed by :* Ronald P. Bell, Richard Barrow, L. E. Sutton.

Pickholz, Siegfried, Ph.D. (Vienna). Austrian. 4, Woodland Road (off Wood Road), Halewood, Nr. Liverpool. Research Chemist, Messrs. Ward, Blenkinsop & Co., Ltd. *Signed by :* G. J. Pritchard, J. G. Cockburn, K. T. Chapman.

***Poll, Alan,** B.Sc. (Dun.), A.R.I.C. – British. c/o Mrs. Spillman, Scoke Pero, Westover Road, Fleet. Junior Scientific Officer to the Royal Aircraft Establishment. *Signed by :* G. H. Christie, J. C. E. Simpson, C. W. Gibby.

Roberts, Walter Leslie, B.Sc.Hons. (Lond.), British. 28, Alice Street, Newport. Research Chemist, John Lysaght, Ltd. *Signed by :* David D. Howat, W. D. Williams, H. B. Watson.

(b)**Senior, Norman,** B.Sc.Hons. (Lond.), Ph.C., F.R.I.C. British. 150, Keighley Road, Colne. Research Chemist. *Signed by :* D. H. R. Barton, E. R. S. Winter, W. H. Linnell.

‡**Smith, Alfred Cowling.** British. Lyncroft, Blackwell, Nr. Bromsgrove. I have been with W. & J. George, Ltd. during the past 23 years, and for many years have held the position of Technical Supervisor in control of the Scientific Instrument and Chemical Departments; in this capacity I am accessible to, and regularly approached by Industrial and Research Chemists, to discuss their processes and for advice on their requirements; also, my application for Fellowship is with the object of keeping informed of recent and future methods of Scientific Research. *Signed by :* J. Cooper Duff, Geo. King, W. E. Ballard.

(b)**Toone, Brian,** B.Sc. (Lond.). British. 44, Normanton Lane, Littleover, Derby. Chemist—Research on foundry core compounds and sands at Rolls Royce. *Signed by :* R. S. Kahan, Eric S. Gyngell, W. B. Chapman.

†**Wainwright, Charles,** B.Sc. (Lond.), F.R.I.C. English. 216, St. Bernard's Road, Olton. Chief Technical Officer. *Signed by :* George Dring, H. V. Potter, J. W. Hewitt, Chas. A. Robb.

* Reduced annual subscription.
† Three-body.
‡ Two-body.

(a) Junior Membership two-body.
(b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between May 18th and June 15th, 1944. This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.

"The verification of the molecular structure of organic liquids by refractive index measurements." By K. H. PAUSACKER.

"Reduction by dissolving metals. Part I. Naphthalene derivatives." By A. J. BIRCH.

"Reduction by dissolving metals. Part II. Methoxybenzene derivatives." By A. J. BIRCH.

"The diazotisation of 1-amino-2-hydroxy-4-cyanonaphthalene and the preparation of 4-cyano-2-naphthol." By H. H. HODGSON and S. BIRTWELL.

"Reduction by dissolving metals. Part III. Alkylbenzenes." By A. J. BIRCH.

"The infra-red spectrum of phenylacetylene." By H. W. THOMPSON and P. TORKINGTON.

"Molecular volume and structure. Parts VII and VIII." By T. W. GIBLING.

"Experiments on the synthesis of purine nucleosides. Part VII. Some further observations on the synthesis of pyrimidines from esters and malondiamidine." By G. A. HOWARD, B. Lythgoe, and A. R. TODD.

"Lactones of glucosaccharic acid. Part I. 2 : 5-dimethyl Δ^4-glucosaccharo-3 : 6-lactone 1-methyl ester, an analogue of ascorbic acid." By F. SMITH.

"The constitution of trimethylene sorbitol." By E. J. BOURNE and L. F. WIGGINS.

"The conversion of galactose into derivatives of *d*-idose." By L. F. WIGGINS.

"Formation and structure of some organic molecular compounds. Part III. The dielectric polarisation of some solid crystalline molecular compounds." By H. KRONBERGER and J. WEISS.

"The preparation of *m*-nitrobenzenesulphonyl chloride." H. H. HODGSON and J. S. WHITEHURST.

"Sugar nitrates. Part I. Syntheses of 2 : 4-dimethyl β-methylglucoside and 2 : 4 : 6-trimethyl β-methylglucoside." By J. DEWAR and G. FORT.

"Sugar nitrates. Part II. Synthesis of 3 : 4-dimethyl glucose : 3-methyl β-methylglucoside." By J. DEWAR and G. FORT.

"Sugar nitrates. Part III. 2 : 4-Dimethyl β-methylglucoside and 3 : 4-dimethyl β-methylglucoside from β-methylglucoside 2 : 3 : 4 : 6-tetranitrate." By J. DEWAR, G. FORT, and N. MCARTHUR.

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PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following:

Honorary Fellow.

	Elected.	Died.
Sir Prafulla Chandra Rây	1933	June 16th, 1944.

The following cable was sent to the Indian Chemical Society on June 20th:

"Council of Chemical Society deeply deplore loss of their distinguished Honorary Fellow, Sir Prafulla Rây, and send sincere sympathy. Haworth, President."

Fellows.

	Elected.	Died.
Horace Edward Brothers	1886	July 3rd, 1944
Walter Brown	1908	April 28th, 1944
Gordon Crewe Chambres	1883	June 23rd, 1944
John Gibson Duncan	1941	May 1st, 1944
James Netherwood Sugden (killed by enemy action)	1917	July 11th, 1944

MEETING OF SOVIET SCIENTISTS.

The following cable was received by the President from Soviet Scientists in Moscow on July 14th:

"Behalf Soviet Scientists thank you for your greetings to our antifascist meeting. These days Red Army and Anglo-American troops are advancing confidently to victory over Hitlerite Germany. Scientists our Countries have full justification for saying they too are friends under arms since by their labours they contribute to Hitlerite Germany's military defeat. Cordial greetings best wishes you personally, Council and all Members Chemical Society. Nikolai Derzhavin, Peter Kapitsa."

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to the Biochemical Society for a contribution towards the maintenance of the Library for 1944, to Colonel R. B. Turbutt for a contribution to the Publications Fund; also to Dr. C. W. Davies, Mr. H. H. Hughes, Dr. V. E. Parke and Mr. W. A. Silvester, for gifts of publications of the Society.

REPRESENTATION ON OTHER BODIES.

Professor C. S. Gibson has agreed to represent the Society on the Safeguarding of Key Industries Committee and Dr. J. T. Hewitt on the Joint Chemical Committee on Patents of the Association of British Chemical Manufacturers.

WAR HONOURS AND DECORATIONS.

The Council will be glad to receive particulars of Honours and Decorations conferred on Fellows.

FELLOWSHIP.

The following 32 candidates were elected Fellows of the Chemical Society on July 20th :

Thomas Ralph Andrew.
Leslie Charles Baker.
Stanley Bernard Philpott Barnes.
Charles Edmund Barraclough.
Reginald Noel Bate.
Raphael Heber Callow.
Herbert Frank Clay.
John Foggan Colville.
Jack Ernest Duddington.
George Esau Edwards.
Drummond Ellis.
Frederick William Epworth.
Leonard Henry Grantly Green.
Albert Aubrey Houghton.
Rayson Huang.
John Graham Hyland.
Werner Adolf Martin Immerwahr.
Raymond Dennis Knight.
Brian James Langdon.
Arnold Herbert Lewis.
Arthur McCoubrey.
Leonard Walter Mills.
Ernest Walter Muddiman.
Hugh Nicol.
Arthur Robert Peacocke.
Siegfried Pickholz.
Alan Poll.
Walter Leslie Roberts.
Norman Senior.
Alfred Cowling Smith.
Brian Toone.
Charles Wainwright.

ERRATUM

Proceedings, May, 1944.

Page.	Line.	
33	7 from bottom	*For* " H. M. Davies " *read* " H. W. Paines."

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than August 28th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

†**Briscoe, Peter Alick,** B.Sc. (Bristol), A.R.I.C. British. Broadway Lodge, Chilcompton, Nr. Bath. Experimental Officer. *Signed by :* E. B. Maxted, E. L. Hirst, J. K. N. Jones.

†**Brooks, John,** B.A.Hons. (Oxon). British. Elsinore, 139, Acre Lane, Bramhall, Stockport. Plant Chemist and Superintendent, I.C.I., Ltd. *Signed by :* Ronald P. Bell, F. E. King, M. J. S. Dewar.

†**Brown, Andrew Charles,** Ph.D. (Glas.), A.R.T.C., A.R.I.C. British. 63, Abergeldie Road, Lee, S.E. 12. Chief Chemist, Messrs. Venesta, Ltd. *Signed by :* G. H. Jeffery, D. M. Cowan, F. Mathie.

Cheetham, Robert Clifford, A.R.I.C., A.M.C.T. British. 115, Coleshill Road, Atherstone. Chemist in charge of process for application of colloidal preparations to roofing materials. *Signed by :* Reginald G. Durrant, John K. Wood, A. E. Gillam.

Collis, Clarence Barnes, B.A., B.Sc. (Oxon). British. Chertsey Road, Sunbury-on-Thames. Research Chemist. *Signed by :* Wilson Baker, E. J. Bowen, S. F. Birch.

Craig, David Parker, M.Sc. (Sydney). British. 62, Springdale Road, Killara, N.S.W. Assistant Lecturer, Chemistry Department, University of Sydney. *Signed by :* Thomas Iredale, Adrien Albert, Desmond J. Brown.

‡**Cullen, James Henry,** Hons. Certificate in Chemistry. Irish. Hill Top, Olive Lane, Wavertree, Liverpool, 15. Production Manager, Wm. Crawford & Sons. Responsible for the development of the technique of biscuit-making and the direction of the Works Laboratory. *Signed by :* Thomas J. Nolan, A. G. G. Leonard, A. O'Farrelly.

Dabby, Reuben Ephraim, B.Sc. and Teacher's Diploma (Lond.). Iraqian. Whitgift Middle School, North End, Croydon. Chemistry Master. *Signed by :* G. R. Shutt, C. W. Davies, M. P. Balfe.

***Daniels, Hilda,** B.Sc.Hons. (Birm.). British. 11, Marion Road, Smethwick, 41. Research Chemist. *Signed by :* L. F. Wiggins, Stanley Peat, W. N. Haworth.

‡**Draper, Charles Robert,** Inter. B.Sc. City and Guilds Hons. in Paint Technology. English. 83, Udney Park Road, Teddington. Chief Inspector and Chemist. *Signed by :* S. H. Bell, D. R. Duncan, C. H. Young.

†**Elphick, Frederick Charles,** A.R.I.C. English. 8 Elers Road, Ealing, W. 13. Retired (Chemist and Works Manager). *Signed by :* J. Davidson Pratt, C. Montague Smith, J. G. King.

Fagan, Christopher Phillip, B.Sc.Hons. (N.U.I.), A.R.I.C. British. Four Steps, The Avenue, Danbury, Chelmsford. Research Chemist, Marconi's Wireless Telegraph Co., Ltd. *Signed by :* Thos. Dillon, Francis Coll, Vincent C. Barry.

***Firth, Denis Arthur,** B.A.Hons. (Oxon). British. 43, North Road, West Bridgford, Nottingham. Research Chemist. Have just completed Part II of the Final Honours School of Chemistry, Oxford. *Signed by :* D. Ll. Hammick, S. G. P. Plant, J. C. Smith, Ronald P. Bell.

***Franklin, Rosalind Elsie,** B.A. (Cantab). British. 5, Pembridge Place, W. 2. Research Chemist, British Coal Utilisation Research Association. *Signed by :* M. Vahrman, Ian G. C. Dryden, Ronald H. Smith.

Gluck, Bruno, Ing. Chem. (Technical High School, Vienna). Polish. 25, Canfield Gardens, N.W. 6. Research Chemist to Dufay-Chromex, Ltd. *Signed by :* B. Ellis, A. H. Cook, H. Surfleet.

Hindley, Nathan Chadwick, M.Sc. and Ph.D. (Manc.). British. 34, Elmwood, Welwyn Garden City. Research Chemist. *Signed by :* A. Cohen, F. Bergel, A. W. D. Avison.

†**Hoather, Roy Colin,** B.Sc. and Ph.D. (Lond.), F.R.I.C. British. 40, Falconer Road, Bushey. Chemist (assistant analytical, research, etc.) to the Colne Valley Water Co. *Signed by :* E. G. Whittle, Gordon Miles, Henry Terrey.

†**Holland, Geoffrey,** B.Sc. (Lond.), A.R.I.C. English. 16, Ash Road, Bebington. Chemist and Director of the Crest Laboratories, Ltd., Manufacturing Chemists. *Signed by.:* B. D. W. Luff, P. N. Williams, G. P. Gibson.

(b)**Jackson, Harold,** A.R.I.C., Assoc.M.C.T. British. 47, Stetchworth Road, Lower Walton, Warrington. Research Analytical Chemist, British Aluminium Co., Ltd. *Signed by :* A. C. Coates, T. G. Pearson, Frank Pitts.

†**Mortlock, Frank,** B.Sc. (Birm.), A.R.I.C. British. 38, Higher Fence Road, Macclesfield. Works Manager, John W. White & Sons, Ltd. *Signed by :* Wm. Wardlaw, R. Leslie Collett, F. P. Dunn.

Mukerji, Jogesh, Doctor of Chemistry (Hon., Lincoln-Jafferson University), State of California; Diploma in Applied Chemistry in Leather Manufacture, Leeds University. British Indian. 224, Woodhouse Street, Hyde Park Corner, Leeds, 6. Works Chemist, Messrs. Keiner & Co., Ltd., Chemical Manufacturers. *Signed by :* Norman Walker, F. R. Goss, W. Lowson.

†**Murdock, Eric Thomas,** M.A., B.Sc.Hons. and Ph.D. (Dublin), A.R.I.C. Member of the Biochemical Society and Nutrition Society, Fellow of the Royal Society of Arts. British. 242, Tottenham Court Road, W. 1. Scientific Adviser to Dept. of Nutritional and Cookery Research, Easiwork, Ltd. Research Chemist. *Signed by :* Wm. E. Gaunt, F. B. Marmoy, R. Leslie Collett.

‡**Powell, Walter James,** M.Sc. (Lond.), A.R.C.S., D.I.C. British. 19, Elm Grove, Orpington. Research Chemist. *Signed by :* W. W. Jones, Elwyn Roberts, T. M. Walters.

†**Reid, Kenneth Cathro,** B.Sc.Hons. (St. Andrews). British. 107, Strathern Road, Broughty Ferry, Dundee. Plant Superintendent (Shift Chemist). *Signed by :* Robert Roger, John D. M. Ross, Isobel A. Smith.

†**Ryan, Herbert Alan,** B.Sc.Hons. (Lond.), A.R.I.C. British. Brynawel, Grantham Road, Bracebridge Heath, Lincoln. Chemist. *Signed by :* Robert H. Pickard, R. Leslie Collett, Alex. Findlay.

(a)**Shapiro, Solomon,** B.Sc. (Lond.). British. Analytical Chemist. *Signed by :* John C. Dine, J. M. C. Thompson, E. N. White.

‡**Snow, Walter Alfred.** 30 years in analytical work. British. 82, Downton Avenue, Streatham Hill, S.W. 2. Chemist. *Signed by :* E. S. F. Rogans, Thomas McLachlan, A. Krajkeman.

***Tyman, John Henry Paul,** B.Sc. (Lond.). British. 16, Eastwood Road, Goodmayes. Chemist, May and Baker, Ltd. *Signed by :* Desmond G. O'Sullivan, Keith G. A. Hammer, D. H. O. John.

†**Urquhart, Alexander Robert,** D.Sc. (Edin.), F.R.I.C., F.T.I. British. Fulwood, Hall Park, Lancaster. Research Superintendent, Lansil, Ltd. *Signed by :* Ralph J. B. Marsden, F. Howlett, F. S. H. Head.

Williams, John, B.Sc.Hons. and Ph.D. (L'pool), F.R.I.C. British. 71, Melrose Road, Norwich. Technical Manager. *Signed by :* Alex. Findlay, John W. Corran, L. H. G. Barton.

Wilson, William Charles, B.A. (Oxon). British. South Lea, Marple Bridge, Nr. Stockport. Research Manager of I.C.I. (Leathercloth Division). *Signed by :* R. G. Fargher, Douglas W. Hill, J. C. Withers.

***Winsor, Geoffrey William,** B.Sc.Hons. (Bristol). British. Durweston, 30, New Road, Broxbourne. Chemistry Research Assistant to Professor H. T. S. Britton, University College, Exeter. *Signed by :* H. T. S. Britton, S. J. Gregg, R. King.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

†**Gardner, Roy,** D.Sc. (N.Z.), F.R.I.C. British. 41, Dowling Street, Dunedin, New Zealand. Consulting Industrial Chemist. *Signed by :* F. G. Soper, L. H. James.

‡**Kohnstamm, Lothair S.,** B.S. (Columbia). American. 87, Park Place, Zone 7, New York, N.Y. President, H. Kohnstamm & Co., Inc. *Signed by :* Foster Dee Snell.

‡**Mackenzie, Harold Albert Erroll,** M.Sc. (S. Africa). British (Union National). 23, Anti Gas Laboratory, S.A.E.C., P/B 164, Pretoria, South Africa. Lieutenant in the Union Defence Forces. *Signed by :* F. L. Warren.

Marsal, Alberto, Chemist-pharmacist and M.D. (Cordoba). Argentine Rep. Calle Jujuy 337, Cordoba, F.C.C.A., Argentine Rep., S.A. Full Professor of Biochemistry and Director of Biochemical Research, Medical School of the University of Cordoba. *Signed by :* J. C. Drummond.

(a)**Misra, Jagdish Saran.** Appearing for the B.Sc. examination of the University of Allahabad. Indian. Amrit Building, 18, Dariyagunj, Delhi. Studying in the University of Allahabad. *Signed by :* K. P. Chatterjee.

Rao, Kotagal Subba Rao Krishna, B.Sc.Agr. (Nagpur). After graduation in 1941, I was awarded a scholarship by the Government of C.P. & Berar for two years to study Biochemistry at the Indian Institute of Science, Bangalore. I am shortly submitting the work done by me during that period for the M.Sc.Agr. of the Nagpur University. Indian. Imperial Council of Agricultural Research, Victoria Technical Buildings, Nagpur, C.P., India. Analytical Chemist employed under the Chief Biochemist to the Imperial Council of Agricultural Research (India) and in charge of analytical and other allied research Work in the Laboratory. *Signed by :* C. C. Shah.

Thompson, Elwood J., B.Sc. (Queen's), 10 years of varied experience. Canadian. A. Wander, Ltd., Elmwood Park, Peterborough, Ontario. Works Chemist. *Signed by :* L. F. Goodwin.

* Reduced annual subscription.
† Three-body.
‡ Two-body.
(a) Junior Membership two-body.
(b) Junior Membership three-body.

PAPERS RECEIVED.

List of papers received between June 15th and July 27th, 1944. This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.

The chemical composition of the fat of the puma or American lion (Felix concolor)." By F. GIRAL.

The mechanism of the cleavage of ethers of the anisole type by Grignard mixtures. The action of Grignard solutions on α-bromo-ketones." By A. SCHÖNBERG and R. MOBASHER.

The preparation of some stilbene derivatives. Part III." By H. J. BARBER and R. SLACK.

Polycyclic aromatic hydrocarbons. Part XXIX. Derivatives of 1 : 2 : 5 : 6-dibenzfluorene." By J. W. COOK and R. W. G. PRESTON.

"The preparation, resolution and optical properties of 2-amino-*n*-octane." By F. G. MANN and J. W. G. PORTER.

"The structure of polyisoprenes. Part III. Ultra-violet absorption spectra." By L. BATEMAN and H. P. KOCH.

"Triterpene resinols and related acids. Part XVII. A. The conversion of β-amyradienonyl acetate into *allo*-β-amyrenonyl acetate. B. The conversion of β-amyrin into *iso*-β-amyradienonol." By J. GREEN, (the late) N. MOWER, C. W. PICARD, and F. S. SPRING.

"Triterpene resinols and related acids. Part XVIII. The conversion of β-amyratrienyl acetate into β-amyradiendionyl acetate." By G. T. NEWBOLD and F. S. SPRING.

"The influence of inert gases on the photodecomposition of gaseous acetone." By T. IREDALE and L. E. LYONS.

"The kinetics of aromatic sulphonation reactions: The sulphonation of *p*-nitrotoluene and of chlorobenzene by sulphur trioxide." By K. D. WADSWORTH and C. N. HINSHELWOOD.

"Analysis of mixtures of 2 : 3 : 4 : 6-tetramethyl glucose with 2 : 3 : 6-trimethyl and dimethyl glucoses by partition on a silica–water column. A small-scale method for investigating the structures of glucopolysaccharides." By D. J. BELL.

"The magnetic susceptibility of certain organic compounds. Part I. The constitution of *p*-benzoquinone, quinol, and quinhydrone system." By H. MIKHAIL and F. G. BADDAR.

"Migration of acid hydrogen as complex to the anode. A modified method for the determination of transport number." By R. WRIGHT.

TECHNOLOGY DEPT.

THE CHEMICAL SOCIETY

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DETROIT

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, October 19th, 1944, at 2.30 p.m.

Tilden Lecture on " Non-benzenoid Aromatic Hydrocarbons," by Dr. Wilson Baker.

Thursday, November 16th, 1944, at 2·30 p.m.

Meeting for the reading of papers. (Further announcement to be made.)

OUTSIDE LONDON.

EDINBURGH.

Tuesday, October 17th, 1944, at 7 p.m.

Lecture on " Some Aspects of Heroid Metabolism," by Professor G. F. Marrian, D.Sc., F.R.S. Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held in the Medical Chemistry Lecture Theatre of the University at Teviot Place.

LEEDS.

Monday, October 9th, 1944, at 6.30 p.m.

Lecture on " Some Trends in Chemical Spectroscopy and the Study of Large Molecules," by Dr. H. W. Thompson. To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Friday, September 15th, 1944, at 6.30 p.m.

Lecture on " Corrosion of Metals in Chemical Plant," by Dr. S. J. Kennett. Joint meeting with the British Association of Chemists. To be held in the Chemistry Lecture Theatre of the University, Brownlow Street.

NOTTINGHAM.

Monday, November 20th, 1944, at 4 p.m.

Lecture on " The Usefulness of the Concept of Resonance in Chemistry," by Mr. R. P. Bell, M.A., F.R.S. To be held in the Lecture Theatre, Chemistry Department, University College, University Park.

SHEFFIELD.

Friday, September 1st, 1944, at 5.30 p.m.

Lecture on " The Chemistry of Glass Formation," by Professor W. E. S. Turner, D.Sc., F.R.S.

Friday, November 10th, 1944, at 5.30 p.m.

Tilden Lecture on " Non-Benzenoid Aromatic Systems," by Dr. Wilson Baker, M.A., M.Sc.
Both joint meetings with the University Chemical Society. To be held in the Chemistry Lecture Theatre of the University, Western Bank.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Matthewman Henry Donald	1920	August 4th, 1944.
Harold Harris	1893	15th July, 1944.
John McVie Hill	1920	August 28th, 1942.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed:

(*a*) To the Royal Society for a grant of £200 from the Government Grant towards the cost of the Society's publications for 1944;

(*b*) To the Society of Chemical Industry for a contribution of £315 8*s*. towards the cost of the maintenance of the Library for 1943;

(*c*) To Mr. T. McLachlan for a contribution of £2 to the Publications Fund for 1944;

(*d*) To Messrs. J. Elks and J. C. McGowan for presenting publications of the Society.

LOCAL REPRESENTATIVES.

The Council have accepted with regret the resignation of Dr. R. Fraser Thomson as one of the Local Representatives for Manchester and of Dr. G. R. Ramage as Local Representative for North Wales; the sincere thanks of the Council have been conveyed to them for the valuable services they have rendered to the Society. Dr. J. C. Withers and Dr. W. R. Angus have accepted invitations of the Council to fill these respective offices.

FELLOWSHIP.

The following 39 candidates were elected Fellows of the Chemical Society on August 17th, 1944:

Peter Alick Briscoe.
John Brooks.
Andrew Charles Brown.
Robert Clifford Cheetham.
Clarence Barnes Collis.
David Parker Craig.
James Henry Cullen.
Reuben Ephraim Dabby.
Hilda Daniels.
Charles Robert Draper.
Frederick Charles Elphick.
Christopher Phillip Fagan.
Denis Arthur Firth.
Rosalind Elsie Franklin.
Roy Gardner.
Bruno Gluck.
Nathan Chadwick Hindley.
Roy Colin Hoather.
Geoffrey Holland.
Harold Jackson.
Lothair S. Kohnstamm.
Harold Albert Erroll Mackenzie.
Alberta Marsal.
Jagdish Saran Misra.
Frank Mortlock.
Jogesh Mukerji.
Eric Thomas Murdock.
Walter James Powell.
Kotagal Subba Rao Krishna Rao.
Kenneth Cathro Reid.
Herbert Alan Ryan.
Solomon Shapiro.
Walter Alfred Snow.
Elwood J. Thompson.
John Henry Paul Tyman.
Alexander Robert Urquhart.
John Williams.
William Charles Wilson.
Geoffrey William Winsor.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than September 25th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

(a) **Ader, George,** B.Sc. (Wales). Czechoslovakian. 28, Pier Street, Aberystwyth. Student. *Signed by:* Kurt Heller, H. G. Poole, E. S. Halberstadt.

(b) **Broatch, John Donald,** B.Sc.Hons. (St. Andrews). British. 290, Blackness Road, Dundee. Chemical investigations connected with aircraft. *Signed by:* Robert Roger, John D. M. Ross, G. A. Earwicker.

(a)**Brownlie, Isaac Allan,** B.Sc.Hons. (Glas), A.R.I.C. Scottish. Heather View, 438, Cambusnethan Street, Wishaw. Research Chemist. *Signed by :* A. B. Crawford, F. Rumford, W. M. Cumming.

Carter, Herbert Donald, B.A.(Cantab.). British. 103, Bull's Head Lane, Coventry. Analytical Chemist. *Signed by :* F. Wild, F. B. Kipping, G. A. H. Bosley.

***Dean, Francis Edward,** B.Sc. (Lond.), A.R.C.S. British. Nirvana, 34, Penderel Road, Hounslow. Fuel Engineer on staff of the Ministry of Fuel and Power. *Signed by :* J. F. Herringshaw, E. R. H. Jones, L. J. Haynes.

***Dunstan, William John.** Doing final year for B.Sc.(Honours) degree. British. 16, Dudley Street, Haberfield, N.S.W., Australia. 4th-Year Honours student in Organic Chemistry at the University of Sydney. *Signed by :* J. C. Earl, C. E. Fawsitt, Thomas Iredale.

‡**Everett, Alfred George.** Member of the Institute of the Plastics Industry. Civilian employment, Cashier and Accountant with May and Baker, Ltd., and being re-employed after the War by M. and B. Plastics, Ltd. Member of the Society of Chemical Industry. British. St. Mary's School, Church Street, Luton. Army Paymaster, Royal Army Pay Corps, since October 11th, 1939. *Signed by :* A. B. Bradley, A. N. C. Bennett, V. W. Slater.

(a)**Ginzburg, Stuart Wilford,** B.Sc. (Lond.), A.R.C.S. British. 513, Green Lanes, Harringay, N. 4. Chemist at Messrs. Macleans, Ltd. *Signed by :* F. H. Milner, W. McGeorge, A. C. Rich.

***Hampton, Alexander.** Doing final year for B.Sc.(Honours) degree. British. 227, Rainbow Street, Coogee, N.S.W., Australia. 4th-Year Honours student, Organic Chemistry, University of Sydney. *Signed by :* C. E. Fawsitt, J. C. Earl, Thomas Iredale.

Harris, Charles Edward, A.R.I.C. British. Waterworks Pumping Station, North Mimms. Chief Chemist and Bacteriologist, The Barnet District Gas and Water Company. *Signed by :* C. E. Corfield, T. E. Wallis, W. H. Linnell.

Holden, Eric Kenyon, A.I.Chem.A., A.M.Tech.I., F.F.Sc. Has been working as personal Assistant to Dr. W. Ignatius S. Rawson, Sc.M., Ph.D., F.C.S., for more than three years, and the past twelve months as Assistant Research Chemist at the Chegwyn-Rawson Research Laboratories, Ltd., 50–52, Boston Place, London, N.W. 1. Australian. 26, Seymour Street, W. 1. Bacteriologist and Chemist Analyst, engaged at the moment upon Medical Research. *Signed by :* W. Ignatius S. Rawson, O. Silberrad, Pierce A. Arnold.

***Howard, George Alfred,** B.Sc.Hons., M.Sc. (Manc.). British. 947, Middleton Road West, Chadderton, Oldham. Research Student. *Signed by :* F. S. Spring, J. Baddiley, B. Lythgoe.

(a)**Ihison, Gerard Francis,** B.Sc.Hons. (L'pool). British. 11, Lindow Square, Lancaster. Chemist. *Signed by :* John Royston Moore, Leslie Davies, S. Hornsby.

†**Kennedy, Eric,** B.Sc. (Lond.), A.R.I.C. British. 37, Hallams Lane, Chilwell, Nottingham. Analytical Chemist. *Signed by :* F. Clermont Scott, W. F. Elvidge, A. D. Powell.

(a)**Kidder, Douglas Edwin,** B.Sc. (Lond.), A.R.I.C. British. 260, Derby Road, Chaddesden, Derby. Chemist. *Signed by :* G. B. Pickering, G. L. Hollis, C. M. C. Dorkin.

†**Lock, Ritchie Hart,** B.Sc. (Lond.), A.R.I.C. British. Lynford, Grange Crescent, Chigwell. Research Chemist, Technical Manager (Research) Messrs. Howards & Sons, Ltd. *Signed by :* W. E. Huggett, George Clark, J. M. C. Fox.

Lord, John Kenneth, A.M.I.Gas.E., Graduate, Institution of Chemical Engineers. British. Rushville, 2, St. Andrew Road, Bridlington. Chemical Engineering Assistant with the United Kingdom Gas Corporation, Ltd. (Central Administration), Swettenham, Nr. Congleton. *Signed by :* C. P. Finn, W. Hodkinson, Thos. Haworth.

†**Parkin, George,** Assoc.Met. (Sheffield), F.R.I.C., Assoc.Inst. Industrial Administration. British. Research Department, Messrs. Brown, Bayley's Steel Works, Ltd., Leeds Road, Sheffield, 9. Metallurgist. *Signed by :* Alex. Findlay, H. W. Cremer, R. Leslie Collett.

‡**Paterson, John Paterson,** B.Sc. (Lond.), A.R.I.C. British. 6, Oswald Drive, Prestwick. Chemist. *Signed by :* I. Vance Hopper, W. M. Cumming, F. J. Wilson.

(b)**Raybould, Ralph Douglas,** B.Sc.Hons. (L'pool). English. 2, Station Terrace, Bishopton Lane, Stockton-on-Tees. Assistant Chemist to I.C.I., Ltd. *Signed by :* M. P. Applebey, A. J. Prince, J. G. M. Bremner.

* Reduced annual subscription.
† Three-body.
‡ Two-body.
(a) Junior Membership two-body
(b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between July 27th and August 21st, 1944. This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.

"Synthesis of substances possibly obtainable as degradation products of thebaine." By R. Ghosh and Sir Robert Robinson.

"Attempts to find new antimalarials. Part XXI." By M. J. S. Dewar.

"Attempts to find new antimalarials. Part XXII." By M. J. S. Dewar.

"Some derivatives of diphenylguanidine." By M. J. S. Dewar.

"The direct introduction of angular methyl groups." By A. J. Birch and Sir Robert Robinson.

"Experiments on the synthesis of substances related to the sterols. Part XLIII." By A. J. Birch and Sir Robert Robinson.

"Experiments on the synthesis of purine nucleosides. Part VIII. The determination of the lactol ring-structures of purine glycosides by periodate oxidation." By B. Lythgoe and A. R. Todd.

"Lactones of glucosaccharic acid. Part II. 2 : 3 : 5-Trimethyl- and 2 : 4 : 5-trimethyl glucosaccharolactone." By F. Smith.

"Lactones of mannosaccharic acid. Part II. Synthesis of 2 : 3 : 5-trimethyl mannosaccharic acid diamide." By (Miss) D. Heslop and F. Smith.

"Glucurone." By F. Smith.

"Studies in the indole Series. Part I. Attempted preparation of tryptophan from tricyclic compounds." By J. Elks, D. F. Elliott, and B. A. Hems.

"Studies in the indole Series. Part II. Attempted synthesis of tryptophan from substituted malonic esters." By J. Elks, D. F. Elliott, and B. A. Hems.

"Studies in the indole Series. Part III. Improved synthesis of tryptophan." By J. Elks, D. F. Elliott, and B. A. Hems.

"Studies in the indole Series. Part IV. Sulphonamides derived from indole." By D. F. Elliott and F. A. Robinson.

"The chemistry of esters of aminobenzoic acid." Part I. By H. Shapiro.

"Lactones of mannosaccharic acid. Part III. Isomerisation of mannosaccharodilactone with alkali." By (Miss) D. Heslop and F. Smith.

"Synthesis of uronic acids. III. *d*-Mannuronic acid." By M. Stacey and P. I. Wilson.

ECHNOLOGY DEPT:

September, 1944

THE CHEMICAL SOCIETY

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DETROIT

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, October 19th, 1944, at 2.30 p.m.

Tilden Lecture on "Non-benzenoid Aromatic Hydrocarbons," by Professor Wilson Baker.

Thursday, November 16th, 1944, at 2.30 p.m.

Meeting for the reading of papers. (Further announcement to be made.)

OUTSIDE LONDON.

EDINBURGH.

Tuesday, October 17th, 1944, at 7 p.m.

Lecture on "Some Aspects of Steroid Metabolism," by Professor G. F. Marrian, D.Sc., F.R.S. Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held in the Medical Chemistry Lecture Theatre of the University at Teviot Place.

GLASGOW.

Friday, November 17th, 1944, at 7.15 p.m.

Lecture on "The Value of the Resonance Concept in Chemistry," by Mr. R. P. Bell, M.A., F.R.S. To be held at the Royal Technical College.

Monday, November 27th, 1944, at 4 p.m.

Lecture on "Some Recent Studies in Diazo-Chemistry," by Dr. H. H. Hodgson, M.A., B.Sc. Joint meeting with the Glasgow University Alchemists Club and the Andersonian Chemical Society. To be held at the Royal Technical College.

LEEDS.

Monday, October 9th, 1944, at 6.30 p.m.

Lecture on "Some Trends in Chemical Spectroscopy and the Study of Large Molecules," by Dr. H. W. Thompson. To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, October 12th, 1944, at 6 p.m.

Lecture on "Sulphur Dioxide—Retrospect and Prospect," by Mr. G. Brearley, B.Sc., F.R.I.C. Joint meeting with the Royal Institute of Chemistry. To be held in the Chemistry Lecture Theatre of the University.

MANCHESTER.

Wednesday, November 8th, 1944, at 5 p.m.

Lecture on "Chemistry in relation to National Prosperity," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S. Joint meeting with the Manchester University Chemical Society and the Royal Institute of Chemistry. To be held in the Chemistry Lecture Theatre of the University.

NORTH WALES.

Thursday, November 16th, 1944, at 5.30 p.m.

Lecture on " Oxidation of Phenols," by Professor R. D. Haworth, D.Sc., Ph.D., F.R.S. To be held in the Department of Chemistry, University College of North Wales, Bangor.

NOTTINGHAM.

Monday, November 20th, 1944, at 4 p.m.

Lecture on " The Usefulness of the Concept of Resonance in Chemistry," by Mr. R. P. Bell, M.A., F.R.S. To be held in the Lecture Theatre, Chemistry Department, University College, University Park.

SHEFFIELD.

Friday, November 10th, 1944, at 5.30 p.m.

Lecture on " Co-ordination Compounds," by Professor W. Wardlaw, D.Sc., F.R.I.C.

Joint meeting with the University Chemical Society. To be held in the Chemistry Lecture Theatre of the University, Western Bank.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Leo Frank Goodwin	1904	August 15th, 1944.
Sir John Jarmay, K.B.E.	1882	August 22nd, 1944.
Ronald William Hamilton O'Donnell	1937	July 16th, 1944.
Alexander Sanders	1941	July 24th, 1944.
Charles Harold Wright	1908	July 31st, 1944.
William Norman Stewart Wright	1910	April 20th, 1944.

ACKNOWLEDGMENT.

The thanks of the Council have been conveyed to Mr. T. A. Simmons for presenting publications of the Society.

RESEARCH FUND.

The Council are prepared to consider applications for grants from the Research Fund. Applications should be made on forms to be obtained from the General Secretary. Fellows who have received grants, the accounts of which have not been closed, are reminded that reports should be received by *November 1st*, 1944.

HARRISON MEMORIAL PRIZE, 1944.

In accordance with the Trust Deed governing the Harrison Memorial Fund, the Selection Committee consisting of the Presidents of the Chemical Society, the Royal Institute of Chemistry, the Society of Chemical Industry and the Pharmaceutical Society, will proceed to make an award of the Harrison Memorial Prize in December 1944, subject to the condition that the Selection Committee shall be of opinion that there is a candidate of sufficient distinction to warrant an award of the Prize.

The Prize, not exceeding £150, will be awarded to the chemist of either sex, being a natural born British subject and not at the time over thirty years of age, who, in the opinion of the Selection Committee, shall, during the previous five years, have conducted the most meritorious and promising original investigations in Chemistry and published the results of those investigations in a scientific periodical or periodicals.

Applications, five copies of which must be submitted, should contain the following information:

(*a*) Name (in full).
(*b*) Age (Birth certificate must accompany application).
(*c*) Degrees (name of University where obtained).
(*d*) Other qualifications.
(*e*) Experience.
(*f*) Titles of published papers, with authors' names, including full references to publications.
(*g*) Where research was carried out.
(*h*) Testimonials and references.
(*i*) Any other particulars bearing on the application.

The Selection Committee is prepared to consider applications, nominations, or information as to candidates eligible for the Prize. Any such communication must be received by:

The President,
The Chemical Society,
Burlington House,
Piccadilly,
London, W. 1.

not later than Friday, December 1st, 1944. Candidates must not be more than 30 years of age at this date.

FELLOWSHIP.

The following 20 candidates were elected Fellows of the Chemical Society on September 21st, 1944:

George Ader.
John Donald Broatch.
Isaac Allan Brownlie.
Herbert Donald Carter.
Francis Edward Dean.
William John Dunstan.
Alfred George Everett.
Stuart Wilford Ginzburg.
Alexander Hampton.
Charles Edward Harris.
Eric Kenyon Holden.
George Alfred Howard.
Gerard Francis Ibison.
Eric Kennedy.
Douglas Edwin Kidder.
Ritchie Hart Lock.
John Kenneth Lord.
George Parkin.
John Paterson Paterson.
Ralph Douglas Raybould.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than October 23rd, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

(b)**Bridger, George Walter,** B.Sc.Hons. (Lond.). British. Holston House, Fairfield, Stockton-on-Tees. Chemist at present on Research, employed by I.C.I. (F. and S.P.), Ltd. *Signed by :* A. J. Prince, J. G. M. Bremner, M. P. Applebey.

(b)**Buckle, Felix James,** B.A.Hons. (Cantab.). British. Magdalene College, Cambridge. Research Chemist (extra mural) for Ministry of Supply. *Signed by :* B. C. Saunders, N. B. Chapman, J. D. Ilett.

†**Burrows, Maxwell Guy Thomas,** B.A., B.Sc., and D.Phil. (Oxon). British. 45, Broad Road, Sale, Manchester. Divisional Plant Manager, Manchester Oxide Co. *Signed by :* Geoffrey Ogden, Denis E. Wheeler, Donald McNeil.

Cookson, Richard Clive, B.A. (Cantab.). English. Trinity College, Cambridge. Research Student. *Signed by :* F. G. Mann, H. McCombie, B. C. Saunders.

‡**Cunningham, George Eric,** B.Sc.Hons. (Leeds), A.R.I.C. British. c/o Messrs. Clark, Son & Morland, Ltd. Research Chemist. *Signed by :* David A. Hall, G. H. Elliott, J. L. Stoves.

‡**Dixon, Theodore Frederic,** B.Sc. and Ph.D. (Lond.), F.R.I.C. British. Trianon, 132, Longland Drive, Totteridge, N. 20. Biochemist at British Drug Houses, Ltd. *Signed by :* Francis H. Carr, P. G. Marshall, T. H. Mead.

‡**Donaldson, James White,** B.Sc. (St. Andrews). British. c/o Tylee, 19, Hambleton Square, Billingham. Assistant Chemist to I.C.I., Ltd. *Signed by :* D. Summers, K. W. Gee, D. M. Grudgings.

‡**Goodall, Allen James,** B.Sc. (Lond.). British. 21, Phrosso Road, Worthing. Chemist, Messrs. J. Lyons & Co., Ltd. *Signed by :* Leslie H. Lampitt, E. B. Hughes, C. G. Barlow.

Graham, John Charles James, B.Sc.Hons. (Lond.). British. 49, Chequers Lane, Walton-on-the-Hill, Tadworth. Chemist. *Signed by :* Edward Horton, J. G. Maltby, Cyril A. Brighton.

***Green, James,** B.Sc.Hons. and M.Sc. (Manc.), A.R.I.C. British. 312, Blackburn Road, Egerton, Bolton. Research Chemist. *Signed by :* F. S. Spring, H. T. Openshaw, A. E. Gillam.

(b)**Jobling, Alan,** Passed B.Sc.Hons. (Lond.) (not yet awarded), A.R.C.S. British. 50, Wentworth Avenue, Finchley, N. 3. 2nd Lt. Royal Engineers. *Signed by :* William A. Bates, L. N. Owen, J. F. Herringshaw.

‡**Latter, Ralph William,** B.Sc. (Lond.). British. 6, Manor Court, Gunnersbury Avenue, Acton, W. 3. Analytical Chemist. *Signed by :* W. E. Scott, H. Egan, W. Davey.

(a)**Levy, Heinz,** B.Sc. (Lond.), A.R.C.S. German. 46, Belsize Square, N.W. 3. Research Chemist (Organic) at Jenson and Nicholson, Ltd., E. 15. *Signed by :* A. A. Eldridge, J. A. Kitchener, H. J. T. Ellingham.

***Marriott, Jack Victor Ralph,** B.Sc.Hons. (Birm.). British. Chemistry Department, The University, Edgbaston, Birmingham, 15. Research. *Signed by :* Stanley Peat, L. F. Wiggins, M. Stacey.

†**Martin, Arnold Edward,** B.Sc.Hons. (Reading), F.R.I.C. British. The University, Reading. Assistant to the Advisory Chemist, Southern Provincial Area. *Signed by :* Thomas H. Goodwin, D. Roy Maxted, F. A. Lyne.

***Molloy, Eileen Lorna,** B.Sc.Hons. (Lond.). British. 16, Helder Grove, Lee, S.E. 12. Industrial Research. *Signed by :* T. S. Moore, M. M. T. Plant, J. W. E. Brading.

***Newbold, Geoffrey Tattersall,** B.Sc.Hons. and M.Sc. (Manc.). British. 6, Granby Road, Stretford, nr. Manchester. Research Student working for Ph.D. degree in Organic Chemistry at Manchester University. *Signed by :* F. S. Spring, J. Baddiley, J. Wardleworth.

‡**Paterson, Thomas,** B.Sc.Hons. (Glas.). British. 23, Hillside, Little Thurrock, near Grays. Works Chemist. *Signed by :* H. R. Galleymore, T. S. Stevens, C. Buchanan.

***Phillips, Frederick William.** Matriculation in Chemistry. 4 Years' experience of analytical chemistry. British. 32, Ashton Gardens, Chadwell Heath, Romford. Assistant Biochemist, May & Baker, Ltd., Dagenham. *Signed by :* Arthur J. Ewins, Julius N. Ashley, G. Newbery.

Razouk, Rashad Ilias, Ph.D. (Fouad I University, Cairo). Egyptian, Faculty of Science, Fouad I University, Abbassia, Cairo. Lecturer in Physical Chemistry. *Signed by :* Gabra Soliman, Alexander Schönberg, F. G. Baddar.

‡**Robson, Thomas David,** B.Sc. (Glas.), Ph.D. (St. Andrews). British. Woodside, Langholm, Dumfriesshire. Research Chemist. *Signed by :* C. I. Brodrick, R. Michaelis, J. W. Minnis.

‡**Salomon, Max,** Ingenieur-Chemiker (Bonn). Analytical and Consulting Chemist. Foodstuff Chemist. Late German. 4, Calvin Street, Belfast. Chief-Chemist of Wheta, Ltd., Belfast. *Signed by :* J. M. Tucker, D. W. Kent-Jones, A. J. Amos.

‡**Saunderson, John Edward Frederick.** National Certificate in Chemistry. 12 years' experience in chemical industry comprising pigments, metallurgical analysis, photographic developer, plastics, explosives, metallic soaps. British. Newcastle-on-Tyne Zinc Oxide Co., Ltd., Birtley. Research Chemist. *Signed by :* H. L. Riley, W. M. Madgin, H. E. Blayden, K. H. Jack.

***Sicher, George Paul.** Czechoslovak. 88, Rivermead Court, Ranelagh Gardens, S.W. 6. Student. *Signed by :* J. R. Partington, V. A. Petrow, J. Saper.

*Snook, **Gordon Frank,** Inter B.Sc. (Lond.). British. Greenways, Olivers Battery, Winchester. Student (Special B.Sc.) University College, Southampton. *Signed by :* Ishbel G. M. Campbell, S. H. Harper, N. K. Adam, K. R. Webb.

Taylor, Lance Neville. Educated at the Sheffield University. Articled to the Sheffield Testing and Experimenting Works. British. 52, Bowshaw, Dronfield, Nr. Sheffield. Chief Chemist (for over 24 years), Messrs. Samuel Osborn & Co., Ltd. *Signed by :* N. D. Ridsdale, R. D. Haworth, Edwin Gregory.

†**Thorburn, Samuel,** B.Sc.Hons. (Glas.), A.R.I.C. Scottish. 111, Beacon Road, Loughborough. Research Chemist, Genatosan Research Laboratories. *Signed by :* G. Malcolm Dyson, E. Vero, H. Coates.

†**Thorpe, William Frederick Albert,** A.R.I.C., A.C.T.C. (Birm.). British. 10, Douglas Road, Blackheath, Birmingham. Chief Chemist at Arthur Holden and Sons, Ltd. *Signed by :* J. Sheridan, T. T. Jones, A. A. K. Whitehouse.

†**Tinsley, Joseph,** B.Sc.Hons. (Reading), F.R.I.C. British. Agricultural Chemistry Department, The University, Reading. Assistant Lecturer in Agricultural Chemistry. *Signed by :* Thomas H. Goodwin, D. Roy Maxted, H. Bassett.

‡**Turnbull, Anthony John,** 10 years' experience in the analysis of Foods, Drugs and Chemicals. British. 19, Palace Gardens, Enfield. Analytical Chemist, Marshall's Food Products, Ltd. *Signed by :* Norman Evers, J. Hubert Hamence, J. M. Jones.

†**Wellburn, Edgar Robert,** B.A., B.Sc. (Oxon), A.R.I.C. British. 18, Squirrels Heath Avenue, Gidea Park, Romford. Chief Metallurgist. *Signed by :* Philip S. Allam, R. S. Cahn, N. C. Brown.

†**Whittaker, James,** B.Sc.Hons., M.Sc. (Manc.), Teacher's Diploma. British. Craigmonie, Bishopton. Chemist-in-Charge, R.O.F. *Signed by :* B. Lythgoe, G. N. Burkhardt, Colin Campbell.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Frosst, John B.,** Ph.G. (Maryland). British (Canadian). P.O. Box 247, Montreal. Vice-President, Charles E. Frosst & Co., Manufacturers of Pharmaceuticals. *Signed by :* W. D. McFarlane, Léon Lortie.

Gupta, Govind Saran, B.Sc. (Agra). Chemical Engineer, Designer and Constructor of Distillery Plants. Indian. The Central Distillery and Chemical Works, Ltd., P.B. No. 19, Meerut (U.P.), India. Works Manager and Distiller. *Signed by :* S. S. Bhatnagar.

Husain, Mian Mohammed Siddiq, M.B., B.S. (Punjab), L.R.C.P. (Lond.), M.R.C.S. (Eng.), D.P.H. (Lond.). Indian. Vaccine Depot, H.E.H. The Nizam's Government, Hyderabad, Deccan. Chemical Examiner, Bacteriologist, Superintendent Vaccine (Small pox and Cholera), Professor of Hygiene, Medical College, Hyderabad. *Signed by :* J. N. Mukherjee.

‡**Ogburn, Sihon Cicero,** Jr., B.S. and Ph.D. (North Carolina), M.S. (Washington & Lee Univ.), Professor of Chemistry and Chemical Engineering, Educational Administrator, Industrial Chemical Consultant and Chemical Research Executive. U.S.A. Pennsylvania Salt Manufacturing Company, 1000, Widener Buildings, Philadelphia, Pa., Manager, Research and Development Department, Pennsylvania Salt Manufacturing Company. *Signed by :* Foster Dee Snell.

Riebsomer, Jesse LeRoy, A.B. (DePauw), A.B. and Ph.D. (Cornell). Fifteen publications in various journals, Industrial Chemistry one year, Teacher of Chemistry 12 years, Consulting Chemist 2 years. American. 316, Arlington Road, Greencastle, Indiana. Professor of Chemistry and Head of the Department of Chemistry, DePauw University. *Signed by :* Roger Adams.

* Reduced annual subscription.
† Three-body.
‡ Two-body.
(a) Junior Membership two-body.
(b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between August 21st and September 21st, 1944. This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.

"The synthesis of some unsaturated γ-lactones." By G. Swain, A. R. Todd, and W. S. Waring.

"The preparation of 1 : 2 : 3-trinitronaphthalene." By H. H. Hodgson and D. E. Hathway.

"The condensation products of the 1 : 2-disubstituted-3-nitrosoindoles. A new type of cyanine dye." By F. G. Mann and R. C. Haworth.

"The preparation of 1-aminophthalaz-4-one." By (Miss) E. F. M. Stephenson.

"The synthesis of α-amino-acids. Part I. *dl*-Methionine." By E. Booth, V. C. E. Burnop, and W. E. Jones.

"Lactones of glucosaccharic acid. Part III. Mono- and di-lactones." By S. Smith.

"Lactones of glucosaccharic acid. Part IV. The enol of 5-keto-4-deoxy glucosaccharo-3 : 6-lactone, an analogue of ascorbic acid." By (Miss) D. Heslop and F. Smith.

"The condensation of fluorene with acetone. Part III. Formation of fluoranthene derivatives." By H. France, S. H. Tucker, and (in part) J. Forrest.

"The Friedel–Crafts reaction and the preparation of α- and β-naphthylketones." By G. Baddeley.

"Experiments on the synthesis of purine nucleosides. Part IX. A synthesis of 9-*d*-xylopyranosido-adenine." By G. W. Kenner, B. Lythgoe, and A. R. Todd.

"Experiments on the synthesis of purine nucleosides. Part X. A synthesis of 9-*d*-ribopyranosido-adenine." By J. Baddiley, G. W. Kenner, B. Lythgoe, and A. R. Todd.

"The structure of pyrethrolone and related compounds. Part III." By T. F. West.

"Sulphanilamides of some aminopyrazoles and a note on the application of phthalylsulphanilyl chloride to the synthesis of sulphanilamides." By M. J. S. Dewar and F. E. King.

"Pyrazoline ring formation. Part I. The action of phenylhydrazine on some saturated and unsaturated β-amino-ketones." By H. B. Nisbet.

"Pyrazoline ring formation. Part II. Ring-chain tautomerism between α-unsaturated phenylhydrazones and 1-phenylpyrazolines. Some evidence of reversibility." By H. B. Nisbet.

"Reactions of furan compounds. Part II. Fission of the tetrahydrofuran and tetrahydropyran rings." By C. L. Wilson.

"Reactions of furan compounds. Part III. Formation of tetrahydrofuran, 2 : 3-dihydrofuran and other substances by passage of tetrahydrofurfuryl alcohol vapour over a nickel catalyst." By C. L. Wilson.

"Reactions of furan compounds. Part IV. High-temperature decomposition of the vapours of tetrahydrofuroic nitrile and methyl tetrahydrofuroate to give 2 : 3-dihydrofuran and *cyclo*propaldehyde." By C. L. Wilson.

"Reactions of furan compounds. Part V. Formation of furan from furfural by the action of nickel or cobalt catalysts. Importance of added hydrogen." By C. L. Wilson.

"Reactions of furan compounds. Part VI. Formation of indole, pyrrocolin, and carbazole during the catalytic conversion of furan into pyrrole." By C. L. Wilson.

"Syntheses of 1 : 4-telluroxan and related cyclic tellurides." By W. V. Farrar and J. M. Gulland.

"The reaction between sulphonyl chlorides and dimethoxybenzenes in the presence of zinc chloride." By H. Burton and E. Hoggarth.

"The conversion of sucrose into furan compounds. Part I. 5-Hydroxymethyl furfural and some derivatives." By W. N. Haworth and W. G. M. Jones.

"The conversion of sucrose into furan compounds. Part II. Some 2 : 5-disubstituted tetrahydrofurans and their products of ring scission." By W. N. Haworth, W. G. M. Jones, and L. F. Wiggins.

"The anhydrides of polyhydric alcohols. Part I. The constitution of isomannide." By L. F. Wiggins.

"The condensation of glucose and β-diketones." By J. K. N. Jones.

"16-*iso*-Propylidene-androstene derivatives." By W. C. J. Ross.

TECHNOLOGY DEPT.

October, 1944

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, November 16th, 1944, at 2.30 p.m.

The following papers will be read and discussed:

"Investigation of the occurrence of the co-ordinate or dative link by electric dipole moment measurements." By G. M. Phillips, J. S. Hunter, and L. E. Sutton.

"A constitutional synthesis of cellobiose and gentiobiose." By Mrs. G. A. Gilbert, F. Smith, and M. Stacey.

OUTSIDE LONDON.

GLASGOW.

Friday, November 17th, 1944, at 7.15 p.m.

Lecture on "The Value of the Resonance Concept in Chemistry," by Mr. R. P. Bell, M.A., F.R.S. To be held at the Royal Technical College.

Monday, November 27th, 1944, at 4 p.m.

Lecture on "Some Recent Studies in Diazo-Chemistry," by Dr. H. H. Hodgson, M.A., B.Sc. Joint meeting with the Glasgow University Alchemists Club and the Andersonian Chemical Society. To be held at the Royal Technical College.

MANCHESTER.

Wednesday, November 8th, 1944, at 5 p.m.

Lecture on "Chemistry in relation to National Prosperity," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S. Joint meeting with the Manchester University Chemical Society and the Royal Institute of Chemistry. To be held in the Chemistry Lecture Theatre of the University.

NORTH WALES.

Thursday, November 16th, 1944, at 5.30 p.m.

Lecture on "Oxidation of Phenols," by Professor R. D. Haworth, D.Sc., Ph.D., F.R.S. To be held in the Department of Chemistry, University College of North Wales, Bangor.

NOTTINGHAM.

Monday, November 20th, 1944, at 4 p.m.

Lecture on "The Value of the Resonance Concept in Chemistry," by Mr. R. P. Bell, M.A., F.R.S. To be held in the Lecture Theatre, Chemistry Department, University College, University Park.

SHEFFIELD.

Friday, November 10th, 1944, at 5.30 p.m.

Lecture on "Co-ordination Compounds," by Professor W. Wardlaw, D.Sc., F.R.I.C. Joint meeting with the University Chemical Society. To be held in the Chemistry Lecture Theatre of the University, Western Bank.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, October 19th, 1944, at 2.30 p.m.

The President, Professor W. N. HAWORTH, D.Sc., F.R.S., was in the Chair, and in opening the proceedings of the meeting, referred to the visit of Indian Scientists to this country. He stated that the Council had entertained Dr. N. Ahmad, Sir Shanti Bhatnagar, Sir Jnanendra Ghosh, Professor S. K. Mitra and Professor J. N. Mukherjee at luncheon that day; that on behalf of the Society he had accorded them a hearty welcome and expressed great pleasure at their visit and of the opportunity it gave of renewing the bonds of fellowship between Indian and British men of science.

MINUTES.

The Minutes of the Scientific Meetings of May 12th in Sheffield and of May 18th in London, which had been circulated, were taken as read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: H. Egan, M. K. Hargreaves, J. Donald Broatch, John F. W. McOmie, Gordon H. Thomson, R. L. Lacey, G. J. Minkoff, R. D. Wadsworth, F. W. Daniel, K. Parvin, W. G. Leeds, S. J. Holt, Clifford Pugh, Roy W. Goodrich, G. Baldit, K. F. Coles, David W. Mathieson, Geo. L. Buchanan, H. W. B. Reed, B. H. Kingston, A. R. Graham, J. B. Fraser, D. S. Payne, Hugh B. Nisbet, Arthur A. Banks, H. L. Salter, P. A. Robins, R. H. Smith, John Attenburrow, J. Elks, H. R. V. Arnstein, R. Frohnsdorff, John A. White, A. Stadler, D. Rozsnyai.

TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Dr. W. Baker to deliver his Tilden Lecture, entitled: "Non-Benzenoid Aromatic Hydrocarbons."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by Professor J. W. Cook, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Ernest Barrett	1906	September 19th, 1944.
Charles Henry Corbett	1891	February 24th, 1944.
Cyril John Fairlam	1943	September 20th, 1944.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. H. Ingham, Dr. E. B. Ludlam, and Messrs. Chance Bros., Ltd., for gifts of publications of the Society.

FELLOWSHIP.

The following 37 candidates were elected Fellows on October 19th:

George Walter Bridger.
Felix James Buckle.
Maxwell Guy Thomas Burrows.
Richard Clive Cookson.
George Eric Cunningham.
Theodore Frederic Dixon.
James Whyte Donaldson.
John B. Frosst.
Allen James Goodall.
John Charles James Graham.
James Green.
Govind Saran Gupta.
Mian Mohammed Siddiq Husain.
Alan Jobling.
Ralph William Latter.
Lance Neville Taylor.
Samuel Thorburn.
William Frederick Albert Thorpe.
Joseph Tinsley.
Heinz Levy.
Jack Victor Ralph Marriott.
Arnold Edward Martin.
Eileen Lorna Molloy.
Geoffrey Tattersall Newbold.
Sihon Cicero Ogburn.
Thomas Paterson.
Frederick William Phillips.
Rashad Ilias Razouk.
Jesse LeRoy Riebsomer.
Thomas David Robson.
Max Salomon.
John Edward Frederick Saunderson.
George Paul Sicher.
Gordon Frank Snook.
Anthony John Turnbull.
Edgar Robert Wellburn.
James Whittaker.

INTER-ALLIED BOOK CENTRE.

The Council have received with sympathy an appeal from the Inter-Allied Book Centre Committee for books to replenish in each of the Allied Countries those libraries which have suffered destruction owing to the War.

The need is urgent for modern technical, scientific and commercial works of every kind, and also for complete sets of the more important periodicals, particularly for back numbers of scientific journals.

For the sake of economy, donors are asked to submit lists of books available to the Director of the Inter-Allied Book Centre, 3–5, Salisbury Square, E.C. 4, from whom copies of the appeal can be obtained.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than November 20th, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

Arnold, Maurice Alec, A.R.I.P.H. British. 43, Pollard Road, Morden. Engaged upon research into the chemotherapeutical action of diallyl sulphide compounds in fowls. *Signed by :* Pierce A. Arnold, W. Ignatius S. Rawson, H. J. Strausz.

***Benfey, Otto Theodor,** B.Sc.Hons. (Lond.). German. 57, Cassiobury Drive, Watford. Chemical Research at University College, London. *Signed by :* H. G. Poole, C. K. Ingold, J. N. E. Day.

‡**Dickinson, Denis Ridgwell,** B.Sc.Hons. (Lond.). British. 56, Osborne Road, Forest Gate, E. 7. Research Chemist, Tate and Lyle, Ltd. *Signed by :* Lawrence S. Bull, H. C. S. de Whalley, J. Barrett.

***Dodd, Robert Edward.** Scholar of Trinity College, Oxford. British. Trinity College, Oxford. Student. *Signed by :* F. M. Brewer, C. N. Hinshelwood, G. V. Raynor.

‡**Eddowes, Derek Ellis,** B.Sc. (Lond.). Five years experience with the Research Association of British Paint Colour and Varnish Manufacturers. British. 3, King's Road, Wimbledon, S.W. 19. Research Chemist. *Signed by :* J. Kenyon, J. W. Smith, L. A. Jordan.

(b)**Gardner, Kenneth.** Passed Pure Maths. subsidiary to Special Chemistry, B.Sc. (Lond.) to be taken 1945, Higher National Cert. in Chemistry. British. 13, Dronfield Road, Stoke, Coventry. Metallurgical Analyst in the Laboratory of A. C. Wickman, Ltd., Coventry. *Signed by :* F. W. Haywood, Charles F. Watts, H. D. Carter.

†**Greensmith, Denis Eric Bosworth,** B.Sc.Hons. (Lond.), A.R.I.C. British. 42, Handen Road, Lee, S.E. 12. Research Chemist. *Signed by :* James G. Fife, H. G. Emblem, J. E. Hackford.

†**Hawkins, Dennis Ernest,** B.Sc. Hons. (Lond.), A.R.C.S., A.R.I.C. English. 9, Arran Road, Catford, S.E. 6. Chemist to R. White & Sons. *Signed by :* K. Parvin, R. W. Pearman, Maurice G. Charlton.

***Jakobowski, Hanns Peter,** Inter.B.Sc., Subsid. (Physics), taking final B.Sc. (Chemistry) June, 1945, at Birkbeck College, London University. German (refugee). 16, Meadow Road, Berkhamsted. Engaged in Chemical and technological plastics research at Cavendish Laboratories, W. 1. *Signed by :* H. G. Emblem, F. Barrow, J. E. Hackford.

‡**Jones, Owen Richard,** Member, the Institute of Fuel. British. Delfryn, 11, Pen-y-Bryn Road, Holyhead. Engineer and Deputy General Manager to the Holyhead and North Wales Gas and Water Co., Ltd. *Signed by :* W. Rogie Angus, J. R. Lewis, O. P. Cronshaw, Richard Jones.

†**Keyser, James William,** M.Sc. (Lond.), A.R.I.C. British. 18, Coniston Avenue, Perivale. Manufacturing laboratory chemist since 14th August (temporarily). *Signed by :* Noel L. Allport, F. J. Bellringer, E. D. Yardley.

(b)**Monks, John Matthew,** B.Sc. (L'pool). British. 26, Lilac Grove, Whitby, Wirral. Laboratory Assistant (skilled). *Signed by :* J. H. Beynon, L. Belchetz, Harold W. Jones.

†**Palethorpe, Louis George Whybrow,** F.R.I.C. British. 4, Austhorpe Avenue, Halton, Leeds. Metallurgical Chemist. *Signed by :* Robert Gawler, J. W. Baker, F. R. Goss.

(a)**Parry, Joan Mary,** B.Sc. (Lond.). British. 4, Park Terrace, Cambridge. Post-graduate Student, Department of Medicine, Addenbrookes Hospital, Cambridge. *Signed by :* D. J. Bell, A. C. Chibnall, G. D. Greville.

Perutz, Max, Ph.D. (Cantab.). British. Cavendish Laboratory, Cambridge. Lecturing and research in X-ray Crystallography at Cambridge University. *Signed by :* Fredk. S. Dainton, A. E. Alexander, P. Johnson.

†**Phillips, William Pearse,** B.Sc.Hons. (Lond.), A.R.C.S., A.R.I.C. British. The Distillers Co., Ltd., 21, St. James's Square, S.W. 1. Chemist. *Signed by :* J. Vargas Eyre, W. H. Langwell, John F. Short.

‡**Pisker, Jan,** B.Sc. (Lond.), 3 years at Vienna University; Assistant to Dr. F. Feigl from 1938—39. Czechoslovak. 39, Westbourne Court, Orsett Terrace, W. 2. Works Manager at Hemingway & Co., Ltd. *Signed by :* D. J. G. Ives, Wm. Wardlaw, F. J. Llewellyn.

‡**Prot, Jan,** Ph.D. (Lwow) Graduated in Industrial Chemistry, Technical University of Lwow. Polish. Experimental Officer with Chemical Inspection Department of Ministry of Supply. *Signed by :* G. G. Jones, M. Le Pla, D. J. Campbell.

***Rigby, Henry Ashley.** British. Exeter College, Oxford. Undergraduate in Honours School of Chemistry. *Signed by :* Ronald P. Bell, C. N. Hinshelwood, W. Baker.

(a)**Truter, Eric Vernon,** B.Sc. (Lond.), A.R.C.S. British. 35, Bath Road, Bedford Park, W. 4. Research Assistant, Imperial College, S.W. 7. *Signed by :* A. A. Eldridge, H. J. T. Ellingham, H. V. A. Briscoe.

(b)**Wadelin, Frank Arthur.** Higher National Certificate in Chemistry (R.I.C.). British. Beverley, Windsor Drive, Whitby, Ellesmere Port. Laboratory Assistant (skilled). *Signed by :* Harold W. Jones, J. H. Beynon, L. Belchetz.

Wilson, Maurice James. Eight years industrial experience. British. 137, Forest Road, Coalville, Nr. Leicester. Assistant to Dr. G. H. Lunge in the Central and Research Laboratories of Messrs. Clutsom and Kemp, Ltd., manufacturers of elastic and rigid webbings. *Signed by :* G. H. Lunge, S. Leadley, G. Oldham.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Korman, Jerome,** B.S.(Michigan). Two years research on natural products. American. A.P.O. 134, U.S.Army Officer, United States Army. *Signed by :* H. B. Watson.

* Reduced annual subscription. † Three-body. (a) Junior Membership two-body.
(‡) Two-body. (b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between September 21st and October 19th, 1944. This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.

"Studies on hydrogen cyanide. Part XIV. Formamido-dichloride." By L. E. HINKEL and T. I. WATKINS, with K. M. JONES.

"Intramolecular ring closures with *cis*- and *trans*- γ-phenyl-γ-(2-furyl)itaconic acid." By E. B. KNOTT.

"Note on 5-nitro-4 : 6-diamino-2-methylpyrimidine, and on a modified procedure for the preparation of chloropyrimidines." By J. BADDILEY and A. TOPHAM.

"Experiments relating to the synthesis of patulin. Part I. A study of hydrogenated γ-pyrones." By J. ELKS, D. F. ELLIOTT, B. A. HEMS, J. O. HARRIS, and C. I. BRODRICK.

"Experiments relating to the synthesis of patulin. Part II. Derivatives of pimelic acid." By J. ATTENBURROW, D. F. ELLIOTT, and B. A. HEMS.

"Experiments relating to the synthesis of patulin. Part III. Derivatives of 2 : 3-diketo-4-acetyltetrahydrofuran." By E. T. BORROWS and B. A. HEMS.

"Experiments relating to the synthesis of patulin. Part IV. Degradation products of patulin." By E. M. GIBBS and F. A. ROBINSON.

"Delphinium alkaloids. Part III. Delpheline." By J. A. GOODSON.

"Carbohydrate sulphuric esters. Part III. The hydrolysis of *iso*propylidene gluco-furanose sulphates and methylgluco-furanoside sulphates." By E. G. V. PERCIVAL.

"Optical rotatory power and structure in triterpenoid compounds. Application of the method of molecular rotation differences." By D. H. R. BARTON and E. R. H. JONES.

"An investigation of the occurrence of the co-ordinate or dative link by electric dipole moment measurements." By G. M. PHILLIPS, J. S. HUNTER, and L. E. SUTTON.

"The metal-catalysed reaction between acetylene and hydrogen. Part II. Further experiments with nickel catalysts." By J. SHERIDAN.

"Reactions of 3-nitro-1-naphthylamine. Part II. Chlorination, mercuration, coupling with diazo-compounds, and the preparation of some arsenicals." By H. H. HOGDSON and D. E. HATHWAY.

"Synthetic experiments in the B group of vitamins. Part I. Riboflavin." By F. BERGEL, A. COHEN, and J. W. HAWORTH.

"The kinetics of the sulphonation of some aromatic compounds by sulphur trioxide." By (MISS) E. DRESEL and C. N. HINSHELWOOD.

"Benzylamine-4-carboxylic acid." By A. ALBERT and D. MAGRATH.

"Evidence for the structural isomerism of Hantzsch's aryl *syn*- and *anti*-diazotates." By H. H. HODGSON and E. MARSDEN.

"Some sulphonamides derived from substituted anilines." By A. H. COOK, I. M. HEILBRON, and K. J. REED.

"Hydroacridones : synthesis and dehydrogenation. Part II." By R. A. REED.

"Hydroacridones : synthesis and dehydrogenation. Part III." By R. A. REED.

"Studies in the polyene series. Part XVII. Replacement halogenation and simultaneous anionotropic rearrangements of acetylenylcarbinols and glycols derived from $\alpha\beta$-unsaturated aldehydes." By I. M. HEILBRON, E. R. H. JONES, R. N. LACEY, J. T. MCCOMBIE, and R. RAPHAEL.

"Studies in the polyene series. Part XVIII. The formation of ethers from propenylethynylcarbinol and related compounds." By I. M. HEILBRON, E. R. H. JONES, B. C. L. WEEDON.

"Studies in the polyene series. Part XIX. The semihydrogenation of ethynylcarbinols derived from $\alpha\beta$-unsaturated aldehydes and the anionotropic rearrangements of the resulting vinylcarbinols." By I. M. HEILBRON, E. R. H. JONES, J. T. MCCOMBIE, and B. C. L. WEEDON.

"Studies in the polyene series. Part XX. The formation of ethers and esters from propenylvinylcarbinol and related compounds and the simultaneous rearrangements." By I. M. HEILBRON, E. R. H. JONES, J. T. MCCOMBIE, and B. C. L. WEEDON.

"Studies in the polyene series. Part XXI. Ethynylcarbinols from $\alpha\beta$-unsaturated ketones, their anionotropic rearrangements and other reactions." By J. CYMERMAN, I. M. HEILBRON, and E. R. H. JONES.

Technology

November, 1944

JAN 20 1945

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, January 18th, 1945, at 2.30 p.m.

Tilden Lecture on "Diffraction Methods in Modern Structural Chemistry," by Professor J. M. Robertson, M.A., D.Sc.

OUTSIDE LONDON.

EDINBURGH.

Friday, January 26th, 1945, at 7.30 p.m.

Lecture on "The Use of Radioactive Tracer Atoms in Chemical and Biological Research," by Dr. F. Fairbrother. Joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held in the North British Station Hotel.

LIVERPOOL.

Thursday, January 18th, 1945, at 4 p.m.

Lecture on "Malaria," by Dr. J. D. Fulton, M.A., M.B., Ch.B. To be held in the Muspratt Lecture Theatre of the University.

SOUTH WALES.

At Swansea.

Thursday, January 18th, 1945, at 6 p.m.

Lecture on "Some Consequences of Hydrogen Bond Formation," by Professor W. Baker, M.A., D.Sc. To be held at University College.

EIRE.

Wednesday, January 24th, 1945, at 7.30 p.m.

Lecture on "Recent Investigations on the Chemistry of Seaweed," by Dr. Vincent Barry. Joint meeting with the Royal Institute of Chemistry. To be held in the Chemistry Department, Trinity College, Dublin.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, November 16th, 1944, at 2.30 p.m.

The PRESIDENT, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Scientific Meeting on October 19th, which had been circulated, were taken as read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

Douglas C. Harrod was formally admitted a Fellow of the Chemical Society.

SCIENTIFIC COMMUNICATIONS.

The following papers were read:

"Investigation of the occurrence of the co-ordinate or dative link by electric dipole moment measurements," by G. M. Phillips, J. S. Hunter, and L. E. Sutton.

"A constitutional synthesis of cellobiose and gentiobiose," by (Mrs.) G. A. Gilbert, F. Smith, and M. Stacey.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Mary Boyle	1921	October 19th, 1944.
Martin E. Fyleman	1906	November 4th, 1944.
Henry Ormsby Hale	1893	September 21st, 1944.
Clarence A. Hall	1927	July 20th, 1942.
Henry J. S. Sand	1898	October 18th, 1944.
Forsyth J. Wilson	1912	October 18th, 1944.

CONGRATULATIONS.

The congratulations of the Council have been sent to Professor G. von Hevesy on his receiving the Nobel Prize for 1943; also to Sir Robert Robertson, K.B.E., on his receiving the Davy Medal and to Professor G. I. Finch on his receiving the Hughes Medal, awarded by the Royal Society.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to the Chemical Council for a contribution of £1000 towards the cost of the Society's publications for 1944, and to Mr. A. P. Mieras for presenting publications to the Society.

LIBRARY.

This year the Library will be closed on Saturday December 23rd to Tuesday 26th, 1944 (inclusive).

HONORARY SECRETARYSHIP.

Professor H. V. A. Briscoe has been appointed by the Council to fill the office of Honorary Secretary, caused by the retirement of Professor C. W. Davies, until the next Annual General Meeting.

RESEARCH GRANTS.

The Council have made the following grants from the Research Fund:

	£	s.	d.
The reduction of organic compounds of nitrogen with special reference to electrolytic reduction using electrodes of rarer metals (W. Davey)	10	0	0
The polarography of quinoline derivatives (J. T. Stock)	5	0	0

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than December 21st, 1944. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

‡**Arnold, Dennis Victor,** B.Sc. (Lond.), A.L.A. British. 53, Eaton Rise, Ealing, W. 5. Research Chemist (Paint and Varnish Manufacturers). *Signed by:* H. Houlston Morgan, Henry Brunner, E. G. Noble.

(a)**Atkinson, Bernard,** B.Sc. (Lond.), A.R.C.S. British. Imperial College Hostel, Prince Consort Road, S.W. 7. Demonstrator in Physical and Inorganic Chemistry at Royal College of Science, S.W. 7. *Signed by:* D. J. G. Ives, J. A. Kitchener, A. A. Eldridge.

***Bailey, Arthur Sydney.** English. Oriel College, Oxford. Undergraduate, reading for Honours Chemistry Degree. *Signed by:* Ronald P. Bell, J. C. Smith, E. Hope.

†**Beeston, George,** B.Sc. (Lond.), F.R.I.C., A.M.I.Chem.E. British. 20, Downham Road, Tranmere, Birkenhead. Chemist, Brotherton & Co. *Signed by:* Dick Emsley, Paul Dalley, George Brearley.

(b)**Birch, Mary Alice.** Higher National Certificate in Chemistry. British. 201, Bedford Road, Rock Ferry, Birkenhead. Laboratory Assistant. *Signed by:* Harold W. Jones, J. H. Beynon, A. French.

(a)**Boyle, Margaret Cecilia Jackson,** B.Sc. (Lond.). British. 57, Walmington Fold, Woodside Park, N. 12. Research Chemist. *Signed by:* D. H. Richardson, W. Davey, C. A. Redfarn.

***Buckell, Helen Monamy Bayldon,** B.Sc. (Lond.). British. 10, Vicarage Gate, Kensington, W. 8. Research Chemist, Department for Research in Industrial Medicine, Medical Research Council. *Signed by:* C. K. Ingold, Henry Terrey, H. G. Poole.

†**Butcher, Herbert Charles,** B.Sc.Hons. (Lond.), A.R.I.C. English. c/o 15, Caxton Avenue, Coombelands, Addlestone. Naval Officer and erstwhile Senior Chemist, Straits Trading Company, Ltd., Singapore. *Signed by:* Alex. Findlay, R. Leslie Collett, Robert H. Pickard.

†**Butcher, Kenneth Leopold,** B.Sc.Hons. (Lond.), A.R.I.C., A.M.I.Chem.E. British. 22, Deeside, Whitby, Wirral. Technologist conducting Research and Development (Pilot Plant Scale) of Processes allied to the Petroleum Industry, and employed by Shell Refining and Marketing Co., Ltd. *Signed by:* M. Buis, J. H. Beynon, Philip J. Garner.

‡**Coates, Marie Evelyn,** Ph.C. (Lond.). British. National Institute for Research in Dairying, Shinfield, Nr. Reading. Biochemist. *Signed by:* A. L. Bacharach, F. A. Robinson, James E. Page.

***Coldrick, William Percival,** Eligible for B.Sc. (Bristol) after 9 months National Service. British. 52, The Crescent, Sea Mills, Bristol, 9. Research Chemist, Anglo Iranian Oil Co., Ltd. *Signed by:* E. L. Hirst, J. K. N. Jones, T. Malkin.

†**Cooke, Edmund Allaway,** M.A. (Oxon). First Class Honours, School of Natural Science (Chemistry), Oxford. English. Bridgemans, Kelsall, Chester. Research Chemist, Deputy Research Manager, I.C.I. (Alkali), Ltd. *Signed by:* L. M. Clark, S. W. Hawkins, J. Haslam, J. Ferguson.

Cowburn, Brian Milner. Studied Chemistry until the outbreak of the present War at the Manchester College of Technology. British. Booths Hall, Knutsford. Chemical Works Manager to W. H. Cowburn & Cowpar, Ltd., Manchester, and assistant to A. W. Cowburn, Manager of Messrs. Courtaulds, Ltd. *Signed by:* James Porter Shenton, Derek Spence, Harold E. J. Cory.

†**Dashwood, John Stuart Michael,** B.A.Hons. (Oxon), A.R.I.C., Grad. Inst. Chem. E. British. c/o Messrs. Barclay's Bank, Ltd., The Old Bank, High Street, Oxford. Lieut., Royal Engineers. *Signed by:* F. C. Laxton, John C. Roberts, D. O. Jordan.

***Denyer, Ronald Leonard.** British. 3, Kingswood Place, Lewisham, S.E. 13. Student at Magdalen College, Oxford, reading for Honours Degree in Chemistry. *Signed by:* L. E. Sutton, Brian J. Langdon, J. Smith.

(a)**Garton, George Alan,** B.Sc. (L'pool). British. 4, Livingstone Road, Scarborough. *Signed by:* Ronald Wood, Thomas P. Gervis, Cecil Denton.

***Gold, Victor,** B.Sc. (Lond.). Austrian. 12, Hillside Avenue, Wembley. Demonstrator in Chemistry, King's College, London. *Signed by:* G. M. Bennett, Gwyn Williams, C. K. Ingold.

***Grove, Dorothea Mona,** B.A., B.Sc. (Oxon). British. 32, Grove Gardens, Park Road, N.W. 8. Demonstrator in Inorganic and Physical Chemistry at Bedford College for Women, Regent's Park, N.W. 1. *Signed by:* James F. Spencer, Margaret M. Jamison, Mary S. Lesslie, C. M. French, C. G. Trew, E. E. Turner.

†**Grover, Donald William,** B.Sc. (Lond.), F.R.I.C. English. 92, Westpole Avenue, Cockfosters, Barnet. Research Chemist with the British Association of Research for the Cocoa, Chocolate, Sugar, Confectionery and Jam Trades. *Signed by:* T. Macara, L. E. Campbell, C. L. Hinton.

†**Harries, Cledwyn Ronald Stephen,** B.Sc.Hons. (Wales), A.R.I.C. British. Stirmac, High Road, Saltcoats. Research Chemist with I.C.I., Ltd. *Signed by:* David Traill, Andrew McLean, F. D. Miles.

†**Heppenstall, Thomas Arthur,** M.Sc. (L'pool), F.R.I.C. British. 45, Derby Road, Beeston, Nottingham. Chemist in Charge, Department of Research and Technical Development, Stanton Ironworks Co., Ltd. *Signed by :* J. D. Goldsworthy, W. A. Caro, D. O. Jordan.

†**Hetherington, Philip Sidney,** B.Sc.Hons. (Manc.), A.R.I.C. British. 78, Preston Road, Chorley. *Signed by :* Alex. Findlay, R. Leslie Collett, Robert H. Pickard.

Holt, Geoffrey, M.Sc.Tech. (Manc.), A.R.I.C. British. 72, Mill Lane, Heatley Heath, Nr. Warrington. Demonstrator in Chemical Technology, College of Technology, Manchester. *Signed by :* J. Kenner, G. Baddeley, R. F. Garwood.

†**Hopkins, Gordon,** M.Sc. (Lond.), A.R.I.C. British. 65, Parkside, Jedburgh. Research Chemist, Messrs. North British Rayon, Ltd. *Signed by :* Allard H. Johnson, G. A. Baxandall, L. Hunter.

***Ivin, Kenneth John.** Part II Chemistry (Nat. Sciences Tripos) Second Class (Div. 1) Honours, Cambridge (B.A. not conferred till June, 1945). British. Christ's College, Cambridge. Research Chemist. *Signed by :* F. S. Dainton, A. D. Walsh, T. M. Sugden.

***Jopling, Douglas William.** British. 44, Risca Road, Newport. Student reading for B.Sc. (Lond.). *Signed by :* H. B. Watson, J. Ormston, Marion Peeling.

†**Judd, Albert Ernest,** B.Sc. (Lond.), A.R.I.C. British. 54, Beech Hall Road, Highams Park, E. 4. Chemist at B.X. Plastics, Ltd. *Signed by :* P. G. T. Hand, F. L. Allen, E. A. Rudge.

†**Levitsky, Boris Nicholas,** B.Sc.Hons. (Lond.), A.R.I.C. British (by naturalisation). 33, Broom Lane, Salford, 7. Chemist in the employ of Imperial Chemical Industries, Ltd., Dyestuffs Division. *Signed by :* J. Kenyon, W. J. S. Naunton, A. F. Crowther.

***Oldham, Wilfred John,** B.A. (Cantab.). British. 3, Sandycombe Road, Feltham. Assistant Chemist, Anglo-Iranian Oil Co., Ltd. *Signed by :* A. J. Berry, S. F. Birch, A. E. Dunstan.

(a)**Pickles, Sydney,** Inter B.Sc. (Lond.). Experience as analyst with manufacturing chemist. British. 270, Rooley Lane, Bradford. Student reading for London University B.Sc. (Special) Examination in Chemistry. Temporarily in R.A.F. *Signed by :* Ronald Gill, H. I. Stonehill, S. Wilkinson.

(b)**Rees, Kenneth Reginald,** B.Sc. (Wales). British. 30a, Earl's Court Square, S.W. 15. Chemist, Lyons Laboratories, Hammersmith. *Signed by :* Leslie H. Lampitt, G. E. Forstner, R. J. M. Pollitt.

(a)**Smith, Ronald Herbert,** Subsid. Physics for B.Sc. (Special) Chemistry, London, degree not taken owing to war interruption. British. Y.M.C.A. Hostel, Lifton Place, Leeds, 2. Employed as an Analytical Chemist engaged in the examination of Government Stores. *Signed by :* Ronald Wood, Thomas P. Gervis, Cecil Denton.

†**Stafford, Fred Raymond,** M.Sc.Tech. (Manc.), A.R.I.C., A.T.I. British. 315, Colne Road, Burnley. Lecturer at Burnley Technical College. *Signed by :* Frederick M. Rowe, J. E. Myers, B. Mouat Jones.

Steadman, Alfred Thomas, M.I.Chem.E., Member Institute of Fuel. British. Calstead, Highfields, North Wingfield, Chesterfield. Senior Chemist, The Hardwick Colliery Co., Ltd., and Hardwick By-Product Co., Ltd. *Signed by :* L. W. Needham, H. K. Suttle, G. A. Bartram.

†**Thornley, Tom,** B.Sc. (Lond.), M.I.Chem.E., A.R.I.C. British. c/o N. Kilvert & Sons, Ltd., Trafford Park, Manchester. Managing Director. *Signed by :* H. J. T. Ellingham, F. P. Dunn, Eric K. Rideal.

(b)**Turner, John Lucas,** Cambridge University, 1942–44, reading Chemistry in Nat. Sci. Tripos. English. 37, Straker Avenue, Overpool, Ellesmere Port, Wirral. Research Chemist, B.P.M. Laboratories. *Signed by :* F. G. Mann, H. McCombie, F. G. Holliman.

***Usher, Dorothy Mary,** B.Sc.Hons. (Lond.) (to be awarded in January, 1945). British. c/o 16, Frognal, N.W. 3. Research Student at University College, London. *Signed by :* C. K. Ingold, H. G. Poole, Henry Terrey.

Ward, Leonard Eric, 14 years' experience in Petroleum Chemistry. British. The Laboratory, Vicarage Road, Gloucester. Director of Research Laboratory engaged upon chemical problems in connection with the Petroleum Industry. *Signed by :* Derrick Rowley, M. Sulzbacher, Ernst Bergmann.

Watson, Horace Edward, B.Sc. (Birm.). British. Prince of Wales School, Nairobi, Kenya. Chemistry Master and part-time Colonial Research appointment. *Signed by :* W. N. Haworth, Stanley Peat, L. F. Wiggins.

†**Wells, Ernest Edmund,** F.R.I.C. British. c/o Messrs. Rowntree & Co., Ltd., Technical Library, The Cocoa Works, York. Director. *Signed by :* J. C. MacKeand, Alfred D. Norris, R. Leslie Collett.

†**West, Peter John,** B.A. (Oxon), A.R.I.C. British. 199, Woodstock Road, Oxford. Industrial Chemist. *Signed by :* Ian McK. Barclay, W. R. Maxwell, R. F. Wilkinson.

Westlake, Vincent Henry, B.Sc. (Lond.). British. 110, South View Terrace, St. Judes, Plymouth. Assistant Chemist at Research Laboratories in Stewarts and Lloyds, Ltd. *Signed by :* H. Price, Frank Royle, John A. Jenkinson.

Whitehurst, John Stanley, B.Sc.Hons. (Lond.). British. 8, Centenary Buildings, Cheadle, Stoke-on-Trent. Lecturer in Chemistry at the University College, Leicester. *Signed by :* L. Hunter, A. Jackman, C. K. Tinkler.

†**Wickens, Rober Louis,** A.R.I.C. British. 64, Stoke Poges Lane, Slough. Assistant Chief Chemist, Horlicks, Ltd. *Signed by :* Richard H. Settle, Alex. Findlay, R. Leslie Collett.

(a)**Wood, John Francis,** B.Sc.(Lond.), A.R.C.S. British. Balros, Stoneyfield Road, Coulsdon. Research Chemist, I.C.I., Ltd., Dyestuffs Division. *Signed by :* L. J. Haynes, J. F. Herringshaw, B. C. L. Weedon.

‡**Wright, Arthur Desmond,** B.Sc.Hons. (Leeds). British. 20, Court Yard, Eltham, S.E. 9. *Signed by :* W. R. Maxwell, D. C. Murray, G. H. Jeffery.

†**Young, John Paterson,** B.Sc.Hons. (Glas.), A.R.I.C., M.Inst.Pet. British. 37, Forth Street, Grangemouth. Research Chemist with Scottish Oils, Ltd. *Signed by :* Charles Buchanan, S. Horwood Tucker, James D. Loudon.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Marszak, Israel, D.Phil. (Basel). French. 1, Carlton Gardens, S.W. 1. Member of French Scientific Mission in England. *Signed by :* Ernst Bergmann.

* Reduced annual subscription.
† Three-body.
‡ Two-body.

(a) Junior Membership two-body.
(b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received from October 19th to November 18th, 1944. This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.

"Novel types of styrylquinolinium compounds." By V. A. PETROW.

"Photo-reactions. Part IX. The action of aldehydes on phenanthraquinoneimine in sunlight." By A. SCHÖNBERG and W. I. AWAD.

"Organic sulphur compounds. Part XXVIII. Thiono-thiol tautomerism manifested by sulphur analogues of cyclic acid anhydrides." By A. SCHÖNBERG and (MISS) W. ASKER.

"Preparation of $\alpha\zeta$-diphenylhexatriene and 1 : 4-diphenylbenzene from cinnamaldehyde." By A. SCHÖNBERG and A. F. A. ISMAIL.

"Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. Part II." By W. GERRARD.

"The preparation of 1 : 5- and 1 : 8-naphthylenediamines and of some related compounds." By H. H. HODGSON and J. S. WHITEHURST.

"Anthraquinone series. Part I. 2-Alkylanthraquinones." By A. T. PETERS and F. M. ROWE.

"The configuration of naturally occurring mixed glycerides. I. The configuration of oleodistearin from various natural sources." By M. L. MEARA.

"The configuration of naturally occurring mixed glycerides. II. The configuration of some monopalmito-glycerides from various natural sources." By M. L. MEARA.

"Observations on the absorption spectra of terpenoid compounds. Part V. Umbellulone." By A. E. GILLAM and T. F. WEST.

"Organic sulphur compounds. Part XXIX. The stereochemistry of trimeric thioaldehydes." By A. SCHÖNBERG and M. Z. BARAKAT.

"The action of sodium on *o*-xylylene dibromide." By W. BAKER, R. BANKS, D. R. LYON, and F. G. MANN.

"The preparation and properties of 2-substituted -*iso*arsindolines. The synthesis of *spiro*-arsonium salts." By D. R. LYON and F. G. MANN.

"Thymoxyethyldiethylamine." By C. E. DALGLIESH.

"The infra-red spectra of cresols and xylenols and the analysis of cresylic acid." By D. H. WHIFFEN and H. W. THOMPSON.

"Purification of colchicine by chromatography." By J. N. ASHLEY and J. O. HARRIS.

"The conversion of acridones into acridines." By R. A. REED.

"The structure of adenosine di- and tri-phosphates." By J. M. GULLAND and E. O'FARRELL WALSH.

"The properties of freshly formed surfaces. Part IV. The influence of chain length and structure on the static and dynamic surface tensions of aqueous alcohol solutions." By C. C. ADDISON.

"The constitution of yeast ribonucleic acid. Part IX. Alkali-labile linkages." By J. M. GULLAND and E. O'FARRELL WALSH.

"The synthetic application of *o*-β-bromoethylbenzyl bromide. Part IV. The preparation of 2-substituted 1 : 2 : 3 : 4-tetrahydro*iso*quinolines." By F. G. HOLLIMAN and F. G. MANN.

"The synthetic application of *o*-β-bromoethylbenzyl bromide. Part V. The preparation and properties of thio*iso*chroman, seleno*iso*chroman, telluro*iso*chroman, and of their optically active derivatives." By F. G. HOLLIMAN and F. G. MANN.

"The synthetic application of *o*-β-bromoethylbenzyl bromide. Part VI. The preparation and optical resolution of a spirocyclic arsonium salt possessing molecular dissymmetry." By F. G. HOLLIMAN and F. G. MANN.

"The direct hydroxylation of 1′ : 2′ : 3′ : 4′-tetrahydro-3 : 4-benzpyrene." By G. A. R. KON and EDNA M. F. ROWE.

"Studies in the anthracene series. Part II. The action of Grignard reagents on dianthraquinone. Some new derivatives of 9 : 9′-dianthranyl." By A. SCHÖNBERG and A. F. A. ISMAIL.

"The structure of polyisoprenes. Part IV. Double bond interaction in certain carbalkoxyl-substituted 1 : 5-dienes." By L. BATEMAN and G. A. JEFFREY.

"The structure of polyisoprenes. Part V. Ultra-violet absorption spectra of certain carbalkoxyl-substituted 1 : 5-dienes, and the charge-resonance spectra of glutaconic ester enolate ions." By L. BATEMAN and H. P. KOCH.

"The preparation of phenanthrene-3 : 6-diamidine." By H. J. BARBER and C. E. STICKINGS.

"Absorption spectra of acridines. Part I. Some aminoacridines." By D. P. CRAIG and L. N. SHORT.

"Thiazinocyanines. Part IV. Simple cyanines containing the 2 : 4-benzthiazine nucleus." By B. BEILENSON, FRANCES M. HAMER, and R. J. RATHBONE.

"The structure of pyrethrolone and related compounds. Part IV." By T. F. West.

"The kinetics of halogen addition to unsaturated compounds. Part V. The $\alpha\beta$-unsaturated acids and hydrogen bromide catalysis." By I. D. Morton and P. W. Robertson.

"The kinetics of halogen addition to unsaturated compounds. Part VI. The allyl halides: lithium chloride and hydrogen bromide." By B. E. Swedlund and P. W. Robertson.

"Quantitative determination of methylglyoxal and the mechanism of its reaction with hypoiodite solution." By Sho-Chow Woo and Sze-Tseng Chang.

"Delphinium alkaloids. Part IV. The alkaloids of the seeds of *Delphinium ajacis*." By J. A. Goodson.

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, January 18th, 1945, at 2.30 p.m.

Tilden Lecture on "Diffraction Methods in Modern Structural Chemistry," by Professor J. M. Robertson, M.A., D.Sc.

Thursday, February 15th, 1945, at 2.30 p.m.

Meeting for the reading of papers. (Further announcement to be made.)

OUTSIDE LONDON.

EDINBURGH

Friday, January 26th, 1945, at 7.30 p.m.

Lecture on "The Use of Radioactive Tracer Atoms in Chemical and Biological Research," by Dr. F. Fairbrother. Joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held in the North British Station Hotel.

Friday, February 23rd, 1945, at 7.30 p.m.

Tilden Lecture on "Non-Benzenoid Aromatic Hydrocarbons," by Professor W. Baker, M.A., D.Sc. To be held in the North British Station Hotel.

GLASGOW.

Friday, February 16th, 1945, at 7.30 p.m.

Lecture on "Some Aspects of the Metabolism of the Steroid Hormones," by Professor G. F. Marrian, D.Sc., F.R.S. To be held at the Royal Technical College, and to be preceded at 7 p.m. by the Annual General Meeting of local Fellows.

LIVERPOOL.

Thursday, January 18th, 1945, at 4 p.m.

Lecture on "Malaria," by Dr. J. D. Fulton, M.A., M.B., Ch.B. To be held in the Muspratt Lecture Theatre of the University.

MANCHESTER.

Friday, January 26th, 1945, at 6 p.m.

Lecture on "Some Observations on the Nature of Bacterial and Tissue Antigens," by Dr. W. T. J. Morgan, M.Sc., F.R.I.C. To be held in the Chemistry Lecture Theatre of the University. Joint meeting with the local Section of the Royal Institute of Chemistry.

Thursday, February 15th, 1945, at 6 p.m.

Meeting for the reading of original communications. To be held in the Chemistry Lecture Theatre of the University.

NORTH WALES.

Thursday, February 8th, 1945, at 5.30 p.m.

Lecture on "The Strength of Carbon Bonds," by Professor M. Polanyi, Ph.D., M.D., F.R.S. To be held in the Department of Chemistry, University College of North Wales, Bangor. Joint meeting with the University College of North Wales Chemical Society.

NOTTINGHAM.

Thursday, February 22nd, 1945, at 6.30 p.m.

Lecture on "Pyrethrum and the Pyrethrins," by Dr. A. E. Gillam, F.R.I.C. To be held in the Lecture Theatre, Chemistry Department, University College, Shakespeare Street.

SHEFFIELD.

Friday, February 9th, 1945, at 5.30 p.m.

Lecture on "Non-Benzenoid Aromatic Systems," by Professor W. Baker, M.A., D.Sc. To be held in the Lecture Theatre of the Chemistry Department of the University, Western Bank. Joint meeting with the University Chemical Society.

SOUTH WALES.

Thursday, January 18th, 1945, at 6 p.m.

Lecture on "Some Consequences of Hydrogen Bond Formation," by Professor W. Baker, M.A., D.Sc. To be held at University College, Swansea.

EIRE.

Wednesday, January 24th, 1945, at 7.30 p.m.

Lecture on "Recent Investigations on the Chemistry of Seaweed," by Dr. Vincent Barry. Joint meeting with the Royal Institute of Chemistry. To be held in the Chemistry Department, Trinity College, Dublin.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Sir John Jacob Fox	1907	November 28th, 1944.
Andrew Laidlaw Scott	1908	November 15th, 1944.

CONGRATULATIONS.

The congratulations of the Council have been conveyed to the following Fellows who have completed 60 and 50 years of Fellowship:

60 Years of Fellowship.

	Elected.
Jason Hall Worrall	December 18th, 1884.

50 Years of Fellowship.

Frederick John Allen	December 6th, 1894.
David Runciman Boyd	,,
John Samuel Strafford Brame	,,
James Bruce	,,
Arthur Herbert Coote	,,
Cecil Cooke Duncan	,,
George Cecil Jones	,,
Bevan Lean	,,
William Henry Lewis	,,
Gerald Grattan Quinn	,,
William George Wagner	,,

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Professor D. H. Peacock and Mr. F. C. Smith for contributions to the Publications Fund.

LOCAL REPRESENTATIVE FOR BIRMINGHAM.

Dr. L. L. Bircumshaw has accepted the invitation of the Council to serve as Local Representative for Birmingham, in the place of Dr. S. Peat, to whom the Council have conveyed their cordial thanks for the valuable services he has rendered to the Society during his term of office.

FELLOWSHIP.

The following 23 candidates were elected Fellows of the Chemical Society on November 16th, 1944:

Maurice Alec Arnold.
Otto Theodor Benfey.
Denis Ridgwell Dickinson.
Robert Edward Dodd.
Derek Ellis Eddowes.
Kenneth Gardner.
Denis Eric Bosworth Greensmith.
Dennis Ernest Hawkins.
Hanns Peter Jakobowski.
Owen Richard Jones.
James William Keyser.
Jerome Korman.
John Matthew Monks.
Louis George Whybrow Palethorpe.
Joan Mary Parry.
Max Perutz.
William Pearse Phillips.
Jan Pisker.
Jan Prot.
Henry Ashley Rigby.
Eric Vernon Truter.
Frank Arthur Wadelin.
Maurice James Wilson.

GENERAL ANNOUNCEMENTS

PUBLICATIONS OF THE AMERICAN CHEMICAL SOCIETY.

	Price to Public.	Postage.
(1) *Journal of the American Chemical Society*	$8.50	$1.50
(2) *Chemical Abstracts*	$12.00	$2.40
(3) *Industrial and Engineering Chemistry:*		
(*a*) Industrial Edition (monthly) and Analytical Edition (monthly), sold only as a unit	$4.00	$2.25
(*b*) Chemical and Engineering News (semi-monthly)	$2.00	$0·60
(*a*) and (*b*) together	$6.00	$2·85

A discount of 10 per cent. is allowed on (1) and (2) when sent to same address and ordered at the same time. No discount on (3).

A special discount of 10 per cent. off all the above prices (exclusive of postage) is allowed to Fellows of the Chemical Society who are not Members of the American Chemical Society.

Fellows residing in Canada pay one-third postage rates and for those residing in countries in the Pan-American Union and Spain there is no charge for postage.

Application should be made direct to the Secretary, American Chemical Society, 1155, Sixteenth Street, N.W., Washington, D.C., U.S.A.

Chemical Reviews (bi-monthly, 2 vols. per year)	$4.00 per vol. $7.00 per year.	postage $0·50 per vol.

Application should be made to the Williams and Wilkins Company, Mount Royal and Guilford Avenues, Baltimore, Md., U.S.A.

NOTE.—Permission to remit money abroad must be obtained through a Bank.

The American Chemical Society regrets that owing to restrictions in the use of paper, no new subscriptions can be entertained.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, January 22nd, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Abrahams, Sidney Cyril.** British. MacBrayne Hall, 11, Park Circus Place, Glasgow, C. 3. Student, in the Department of Chemistry, University of Glasgow. *Signed by:* J. Monteath Robertson, J. W. Cook, David T. Gibson.

†**Adams, Winifred Elisabeth,** M.A.(Cantab.), A.R.I.C. British. 117, Upton Road, Slough. Senior Chemist, Horlicks Ltd. *Signed by:* Sidney H. Long, R. Leslie Collett, Alex. Findlay.

Barrett, James, A.M.C.T., M.Inst.Pet. British. 144, Bramhall Lane, Stockport. Analytical and Research Chemist, Partner of Moore and Barrett, Petroleum Technologists, Stockport. *Signed by:* Harold Moore, Percy Bean, P. A. Charlesworth.

Bayliss, William Alfred. British. 45, Cranbrook Road, E. Barnet. Chemist, Gloy and Empire Adhesives, Ltd. *Signed by:* C. F. Goodeve, F. G. Donnan, R. J. W. Le Fèvre.

†**Bennett, William Gordon,** D.Sc. (Leeds), F.I.R.C. British. Glenochil House, Menstrie, Clackmannanshire. Works Manager to a Yeast Factory, Chief Chemist (Scotland) to the Distillers Co., Ltd. *Signed by:* H. B. Hutchinson, J. G. Maltby, E. Horton.

†**Benney, John Howard,** B.Sc.Hons. (Lond.), F.R.I.C. British. 157, Nithsdale Road, Pollokshields, Glasgow, S. 1. Analytical Chemist. *Signed by:* A. R. Chambers, J. Leicester, R. Leslie Collett.

†**Biske, Victor,** B.Sc. (Lond.), F.R.I.C. British. 5, Kingsmead, Upton Lane, Chester. Chemist in charge of control laboratory, Lobitos Oilfields, Ltd. *Signed by:* L. Belchetz, F. S. Archer, L. McGrath.

†**Blakebrough, Norman,** B.Sc.Tech.Hons. (Manc.), A.R.I.C., Student of Institution of Chemical Engineers. British. College of Technology, Sackville Street, Manchester, 1. Research Chemist (Institute of Brewing). *Signed by:* O. Rhys Howell, T. K. Walker, J. Kenner.

†**Bowen, John Brinley,** B.Sc. (Wales), A.R.I.C. Teachers' Diploma of the University of Wales. British. Edward Davies Laboratory, University College of Wales, Buarth Road, Aberystwyth. Temporary Assistant Lecturer in Organic Chemistry. *Signed by:* C. W. Davies, F. Holmes, T. Campbell James.

‡**Bradburne, Francis Edward Husband,** B.Sc. (Lond.), A.R.C.S. British. 11, Stanhill Lane, Oswaldtwistle. Analytical Chemist. *Signed by:* T. Harrington, J. Skull, C. C. Addison.

***Brearley, Roy Denys.** Oxford and Cambridge Higher School Cert. Exhibition at Oriel College in Chemistry. British. 28, Kendall Avenue, Shipley. Student in Honours School of Chemistry at Oxford. *Signed by:* Ronald P. Bell, D. Ll. Hammick, P. H. Given.

‡**Brickell, Edgar George.** Inter Science Examination (Lond.), Physics Subsid. to Honours Chemistry, 9 years industrial analytical experience. British. Highclere, Horsell Rise, Woking. Analytical Chemist, Chemical Inspection Department. *Signed by :* E. N. White, J. M. C. Thompson, K. L. Graham.

†**Catlow, Herbert,** B.Sc.Hons. (L'pool), A.R.I.C. British. Sunny Bank, Oswaldtwistle. Works Chemist. *Signed by :* Edw. S. Forber, G. Watson, Cyril Lipman.

‡**Clarke, Peter Trevisa,** B.A. (Oxon), F.R.M.S., Member of the Society of Public Analysts, Member of the Nutrition Society. British. Littleholme, Dorney Reach, nr. Taplow. Chief Chemist and Control Manager, Kraft Cheese Co., Ltd. *Signed by :* H. D. Kay, S. J. Rowland, J. G. Davis.

†**Coleman, Denis,** B.Sc.Hons. and Ph.D. (Lond.), A.R.I.C. British. 2, Weld Road, Withington, Manchester, 20. Research Chemist, The British Cotton Industry Research Association. *Signed by :* Fredk. O. Howitt, J. C. Withers, F. Howlett.

†**Couch, Norman,** A.R.I.C. British. 35, Harbord Road, Waterloo, Liverpool, 22, Assistant Works Chemist at The Liverpool Gas Co. *Signed by :* S. C. Glass, L. G. Townsend, A. Ormrod.

(b)**Cull, Cyril Sidney.** City and Guilds Final Petroleum and Petroleum Products Examination, Northern Universities Matriculation. British. Sydclair, Berwick Gardens, Little Sutton, Wirral. Section Head, Finished Products Laboratory, Shell Refining and Marketing Co., Ltd. *Signed by :* A. French, Harold W. Jones, K. D. Grice.

Davidson, Edna Mary, B.Sc. and Ph.D. (Lond.). British. 14, Ruvigny Mansions, The Embankment, Putney, S.W. 15. Demonstrator in Chemistry at the London School of Medicine for Women. *Signed by :* Eustace E. Turner, Mary S. Leslie, Margaret M. Jamison.

(a)**Dresel, Eva Maria,** B.A.Hons. and B.Sc. (Oxon.). Stateless. Warren Chase, Oxshott. Junior Scientific Officer, British Coal Utilisation Research Association. *Signed by :* D. M. Hodgkin, W. J. Kramers, D. H. Bangham.

(b)**Edwards, William George Henry,** B.Sc.Hons. (Lond.), A.R.I.C. British. 11, Cranham Road, Romford. Research Chemist. *Signed by :* D. H. O. John, A. M. Woolman, H. J. Barber.

†**Farrand,** George Noble Spencer, B.Sc.Hons. (Manc.), A.R.I.C. British. Scientific Officer, Admiralty. *Signed by :* F. M. Valentine Flint, W. J. S. Naunton, W. McG. Morgan.

Forder, Bernard Arterton, B.Sc. (Lond.), Ph.C., M.P.S. British. 7, Hurst Close, Hayes, Kent. Assistant Chemist, Messrs. Paines and Byrne. *Signed by :* J. Newton Friend, J. Cooper Duff, D. J. Roberts.

***Friend, James Alan.** British. 16, Kelburn Road, Roseville, N.S.W. Final year Honours student, Sydney University. *Signed by :* C. E. Fawsitt, Thomas Iredale, Adrien Albert.

†**Ghyselinck, Alphonse Michael,** M.A. (Cantab.). British and Belgian. 24, Northampton Street, Bath. Chemist at a Gas Company. *Signed by :* H. L. G. Boot, Harold F. Barke, R. G. W. Norrish.

†**Goodall, Frederic Leathley,** M.Sc. (Leeds), F.R.I.C. British. Harcourt, Manor Park, Burley-in-Wharfedale. Chief Chemist and Yorkshire Branch Manager of The Geigy Colour Co., Ltd. *Signed by :* Frederick M. Rowe, J. B. Speakman, Edward Race, Arnold T. Peters.

Haining, William, 25 years experience in the chemical industry. British. St. Lawrence, Ray Park Avenue, Maidenhead. Director, Frederick Allen & Sons (Poplar), Ltd. *Signed by :* F. J. Allen, R. Barrington Brock, T. P. Hilditch.

†**Hawkins, Cyril George,** B.Sc.Hons., Research student, S.W. Essex Technical College for Ph.D. English. 52, Forest Edge, Buckhurst Hill. Senior Chemistry Master, County High School for Boys, Leyton, E. *Signed by :* H. Holmes, L. B. Wood, J. H. Wilkinson.

(a)**Heyworth, Fred.,** B.Sc. (Manc.). British. 66, Eastbourne Gardens, Whitley Bay. Research Chemist, Paint Industry. *Signed by :* John K. Blacklock, H. R. Touchin, N. S. Capper.

†**Hodgkinson, Roy William,** Inter.Science (Lond.). British. 2, St. Luke's Road, Brighton, 7. Analytical Chemist. *Signed by :* R. J. Cole, H. Wells, W. H. Bennett.

***Howe, Kenneth.** Matriculation, National Certificate in Pure Chemistry. British. 141, Chorley Road, Swinton. Technical Assistant, Ministry of Supply. *Signed by :* J. F. Jackson, James F. Sumner, H. Webster.

Jones, Herbert John, A.M.C.T., A.R.I.C. British. 28, Marshgate Lane, Stratford, E. 15. Technical Consultant. *Signed by :* Ernest A. Rudge, F. L. Allen, W. R. Burnham, Ralph F. Bromley.

Kemp, Alexander Duncan, B.Sc.Hons. (Witwatersrand). Union National. 514, Phineas Court, 34, Bertha Street, Braamfontein, Johannesburg, S. Africa. Junior Lecturer in Chemistry at the Witwatersrand University. Also Chemist and Druggist, Union of S. Africa, Registered April, 1935. *Signed by :* Henry Stephen, O. G. Backeberg, H. R. Raikes.

(a)**Kenefec, Edward,** Inter.B.Sc. and Subsid. (Physics) London External, studying for special degree in chemistry. English. 109, Eden Road, Grove Hill, Middlesbrough. Research Assistant. *Signed by :* A. J. Prince, M. P. Applebey, Michael H. M. Arnold.

***Kenner, George Wallace,** M.Sc. (Manc.). British. Christ's College, Cambridge. Research Student. *Signed by :* A. Topham, James Baddiley, George A. Howard.

†**Kington, George Leslie,** B.Sc.Hons. (Bristol). British. 37, Sandown Road, Brislington, Bristol, 4. Research Chemist. *Signed by :* E. B. Maxted, J. Kenyon, N. Jones, H. D. Springall.

***Lees, Kenneth.** British. 18, Cambridge Road, Heaton Chapel, Stockport. Assistant to C. J. House, Esq., F.R.I.C. *Signed by :* C. J. House, Ralph J. B. Marsden, S. G. Lawrence.

‡**Levy, Ernest,** D.Sc. (Heidelberg). German. Schoolhouse Fairview, Salthouse Road, Millom. Research Chemist. *Signed by :* G. H. Macadam, F. H. Kroch, E. M. Meade.

***Lyons, Josiah Alexander,** B.Sc. (Belfast). British. 25, High Street, Newtownards. Research Student, University Chemical Laboratories, Cambridge. *Signed by :* James Baddiley, A. Topham, George A. Howard.

‡**McLean, William Roderick,** B.Sc. (Lond.). British. 22, Roslin Way, Burnt Ash Lane, Bromley. Deputy Chief Chemist to Anglo Dairies and Canners. *Signed by :* A. H. M. Muter, H. F. Stephenson, C. Kear Colwell.

Matthews, Alice Amy, B.Sc. (Lond.). British. 17, Burnside Street, Alvaston, Derby. Laboratory Technician, Pathological Department, Derbyshire Royal Infirmary. *Signed by :* Eric S. Gyngell, G. L. Hollis, Brian Toone.

***Mayer, Joseph,** M.P.S. Czechoslovak. 7, Grange Road, Southport. Practising Pharmacist. *Signed by :* H. Humphreys Jones, G. R. Page, A. L. Graham.

†**Monk, Philip Reginald,** B.Sc. (Lond.), A.R.C.S., A.R.I.C. British. 46, Hale Grove Gardens, Mill Hill, N.W. 7. Analytical Chemist. *Signed by :* H. Wells, W. H. Bennett, R. J. Cole.

***Owen, Gwendoline Muriel,** B.Sc.Hons. (Lond.). British. 117, Westward Road, South Chingford, E. 4. Teacher of Chemistry. *Signed by :* C. M. French, Mary S. Lesslie, James F. Spencer.

(b)**Parker, Wilfred John,** B.Sc. (Lond.), A.R.I.C. British. 23, Holden Road, North Finchley, N. 12. Technical Assistant, Ministry of Supply. *Signed by :* F. Holden, T. M. Walters, Fred Hudswell.

†**Plaster, Frederick Henry,** B.Sc. (Dun.), A.R.I.C. British. Virginia House, Cartwright Lane, Beverley. Analytical and Research Chemist in Laboratories of Gelatine Manufacturers. *Signed by :* J. N. Blake, P. S. Gordon, A. Cheshire.

†**Powell, Harold William Charles,** B.Sc. (Lond.), A.R.I.C. British. 2, Caversham Avenue, North Cheam. Works Chemist. *Signed by :* Alex. Findlay, H. H. Hodgson, R. Leslie Collett.

(a)**Schwarz, Felix,** B.Sc.Tech. (Manc.). Austrian. 238, Nell Gwynn House, Sloane Avenue, S.W. 3. *Signed by :* A. Burawoy, G. Baddeley, R. F. Garwood.

(b)**Slicer, Ian Harold.** British. 23, Oliver Avenue, South Norwood, S.E. 25. Research Chemist. *Signed by :* H. Lambourne, A. Houston, Gerald R. Shutt.

(b)**Strauss, Helmut,** Inter.B.Sc. (Lond.), 2nd year Chemistry student. German. 14, Woodstock Grange, 95, Grange Road, Ealing, W. 5. Research Assistant to Messrs. Bayer Products, Ltd. *Signed by :* D. J. G. Ives, F. Barrow, Wm. Wardlaw.

†**Tait, Adam,** F.R.I.C. British. The Laboratory, Messrs. Wm. Younger & Co., Ltd., Abbey Brewery, Edinburgh, 8. Chief Chemist. *Signed by :* E. G. V. Percival, Neil Campbell, T. R. Bolam.

***Tyler, Joyce,** B.Sc.Hons. (Manc.). English. 79, Chorley Road, Swinton. Assistant Research Chemist at I.C. Pharmaceuticals (Penicillin Section). *Signed by :* G. R. Ramage, H. C. Carrington, Peter Sykes.

‡**Watson, Vincent,** B.Sc. (Lond.). British. Cromford Colour Co., Ltd., Cromford, Matlock. Managing Director. *Signed by :* R. S. Kahan, Eric S. Gyngell, H. F. Clay.

(b)**Weale, Kenneth Edward,** B.Sc.Hons. (Wales). British. 25, Richmond Avenue, Bognor Regis. Research Chemist, Messrs. Albright and Wilson, Ltd. *Signed by :* T. Campbell James, H. G. Poole, Geo. King.

‡**Wetherell, Walter Cecil.** Full Member British Association of Chemists. 24 years in Industry. Member, Society of Chemical Industry. British. 11, Dulverton Road, New Eltham, S.E. 9. Chief Chemist, British Disinfectant Co., Ltd. *Signed by :* C. S. Garland, E. C. C. Baly, Thomas McLachlan.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

†**Cook, Arthur Stanley,** B.A. (Dalhousie), Ph.D. (Toronto). Canadian. c/o Ayerst, McKenna and Harrison, Ltd., Box 364, Station "O," St. Laurent, Montreal. Director, Research and Biological Laboratories. *Signed by :* I. R. McHaffie, W. D. McFarlane.

†**Joshi, Pandurang Narayan,** B.A. (Bombay), M.Sc.Tech. (Manc.), A.M.C.T., F.R.I.C. Indian. Victoria Jubilee Technical Institute, Matunga, Bombay, 19. Principal, Secretary and Head, Technical and Applied Chemistry Department. *Signed by :* R. D. Desai.

‡**Ram, Charat,** B.A. (Delhi). Indian. D.C.M. Chemical Works, Post Box No. 39, Delhi. Assistant Managing Director, Delhi Cloth and General Mills Co., Ltd. *Signed by :* S. S. Bhatnagar, R. B. Forster.

* Reduced annual subscription. † Three-body. (a) Junior Membership two-body.
(‡) Two-body. (b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between November 18th and December 20th, 1944. This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.

"The resolution of propenylethynylcarbinol." By J. Kenyon and R. Poplett.

"The chlorination of β-naphthol and ethyl 2 : 3-hydroxynaphthoate in the presence of sodium acetate. 4-Chloro-β-naphthol and its derivatives." By H. Burton.

"Rubber, polyisoprenes, and allied compounds. Part VIII. The formation of dialkyl sulphide dihalides and its bearing on the problem of determining the unsaturation of olefinic sulphides." By G. F. Bloomfield.

"The reactivity of keten towards olefins and olefinic peroxides." By R. F. Naylor.

"A note. Reactivity of isoprenic and analogous hydrocarbons towards thiocyanic acid and dithiocyanogen." By R. F. Naylor.

"The reactions of Grignard reagents with some zinc chloride double salts of diazonium compounds." By H. H. Hodgson and E. Marsden.

"The application of the Hofmann reaction to the synthesis of heterocyclic compounds. Part I. Synthesis of alloxazine from quinoxaline-2 : 3-dicarboxylic acid." By R. A. Baxter and F. S. Spring.

"The application of the Hofmann reaction to the synthesis of heterocyclic compounds. Part II. Synthesis of xanthine from glyoxaline-4 : 5-dicarboxyamide and of 9-methylxanthine from 1-methylglyoxaline-4 : 5-dicarboxyamide." By R. A. Baxter and F. S. Spring.

"The oxidation of 1 : 1-diphenylethylene with perbenzoic acid." By G. T. Newbold and F. S. Spring.

"The preparation and properties of sulphonacetamides : A method for the separation of sulphonamides from *N*-alkylsulphonamides." By H. T. Openshaw and F. S. Spring.

"*p*-Sulphonamidobenzylaniline and related compounds of pharmacological interest." By W. Kelly, T. D. Robson, and W. F. Short.

"A novel pyrimidine synthesis. Part I. 4-Amino-5-phenylpyrimidine." By W. H. DAVIES and H. A. PIGGOTT.

"A novel pyrimidine synthesis. Part II. 4-Amino-5-substituted phenylpyrimidines." By W. H. DAVIES, A. W. JOHNSON, and H. A. PIGGOTT.

"A new method for the preparation of *p*-dialkylaminobenzaldehydes." By J. C. DUFF.

"Syntheses in the thiazole series. Part I. The condensation of α-halogenketones with dithioamides." By E. B. KNOTT.

"Syntheses in the thiazole series. Part II. Attempted synthesis of 1′ : 2′ : 4 : 5-indothiazoles." By E. B. KNOTT.

"Syntheses in the thiazole series. Part III. 2-Alkylthio- and 2-benzylthio-thiazoles." By E. B. KNOTT.

"Syntheses in the thiazole series. Part IV. 4-Phenylthiazole-5-acetic acid and derivatives; cyclisation of 4′-hydroxynaphtha-1′ 2′ : 4 : 5-thiazoles." By E. B. KNOTT.

"Syntheses in the thiazole series. Part V. The by-product from the cyclisation of 4-phenyl-2-methylthiazole-5-acetic acid." By E. B. KNOTT.

"Syntheses in the thiazole series. Part VI. α-(4-Phenyl-5-thiazole) propionic acids and their cyclisation to 4′-hydroxy-3′-methylnaphtha-1′ : 2′ : 4 : 5-thiazoles." By E. B. KNOTT.

"Syntheses in the thiazole series. Part VII. Phenanthra-1′ : 2′ : 4 : 5-thiazoles and phenanthra-4′ : 3′ : 4 : 5-thiazoles." By E. B. KNOTT.

"Syntheses in the thiazole series. Part VIII. β-Bromo-β-2-thienoylpropionic acid and its conversion into 4′-hydroxythionaphtheno-7′ : 6′ : 4 : 5-thiazoles." By E. B. KNOTT.

"Syntheses in the thiazole series. Part IX. Bromo-β-benzylpyruvic acid and its condensation with thioamides." By E. B. KNOTT.

"Transport numbers of zinc halides." By (MISS) D. M. EGAN and J. R. PARTINGTON.

"Absorption spectra of acridines. Part II. Monoaminoacridines." By N. H. TURNBULL.

"A preliminary study of the polyuronide hemicellulose of *Phormium tenax* (N.Z. flax)." By R. J. MCILROY, G. S. HOLMES, and (MISS) R. P. MAUGER.

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APR 9 - 1945

January, 1945

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, February 15th, 1945, at 2.30 p.m.

The following papers will be read and discussed :

" Molecular compounds between amines and sulphur dioxide. A comment on Jander's theory of ionic reactions in sulphur dioxide." By L. C. Bateman, E. D. Hughes, and C. K. Ingold.*

" Experiments on the synthesis of the pyrethrins. Part I. Synthesis of chrysanthemum monocarbocyclic acid." By S. H. Harper.

" Studies on the chemical constitution of colchicine." By N. Barton, G. L. Buchanan, J. W. Cook, W. Graham, and J. Loudon.*

Thursday, March 15th, 1945, at 2.30 p.m.

Liversidge Lecture on " Reactions in Monolayers," by Professor E. K. Rideal, M.B.E., M.A., D.Sc., F.R.S.

OUTSIDE LONDON.

BRISTOL.

Thursday, February 8th, 1945, at 5.30 p.m.

Tilden Lecture on " Diffraction Methods in Modern Structural Chemistry," by Professor J. M. Robertson, M.A., D.Sc. To be held in the Department of Chemistry of the University.

EDINBURGH.

Friday, February 23rd, 1945, at 7.30 p.m.

Tilden Lecture on " Non-Benzenoid Aromatic Hydrocarbons," by Professor W. Baker, M.A., D.Sc. To be held in the North British Station Hotel.

GLASGOW.

Friday, February 16th, 1945, at 7.30 p.m.

Lecture on " Some Aspects of the Metabolism of the Steroid Hormones," by Professor G. F. Marrian, D.Sc., F.R.S. To be held at the Royal Technical College, and to be preceded at 7 p.m. by the Annual General Meeting of local Fellows.

LEEDS.

Tuesday, March 6th, 1945, at 5.15 p.m.

5.15 p.m. Film entitled " Sulphonamide Therapy."
6.0 p.m. Light refreshments.
6.30 p.m. Discussion on " The Repercussions of Modern Theoretical Developments on the Methods of Teaching Chemistry in Schools," to be opened by Professor F. G. Tryhorn.

Joint meeting with Leeds University Chemical Society. To be held in the Chemistry Lecture Theatre of the University.

MANCHESTER.

Thursday, February 15th, 1945, at 6 p.m.

Meeting for the reading of original communications. To be held in the Chemistry Lecture Theatre of the University.

* To read paper.

NORTH WALES.

Thursday, February 8th, 1945, at 5.30 p.m.

Lecture on " The Strength of Carbon Bonds," by Professor M. Polanyi, Ph.D., M.D., F.R.S. To be held in the Department of Chemistry, University College of North Wales, Bangor. Joint meeting with the University College of North Wales Chemical Society.

NOTTINGHAM.

Thursday, February 22nd, 1945, at 6.30 p.m.

Lecture on " Pyrethrum and the Pyrethrins," by Dr. A. E. Gillam, F.R.I.C. To be held in the Lecture Theatre, Chemistry Department, University College, Shakespeare Street.

SHEFFIELD.

Friday, February 9th, 1945, at 5.30 p.m.

Lecture on " Non-Benzenoid Aromatic Systems," by Professor W. Baker, M.A., D.Sc. To be held in the Lecture Theatre of the Chemistry Department of the University, Western Bank. Joint meeting with the University Chemical Society.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, January 18th, 1945, at 2.30 p.m.

The President, Professor W. N. HAWORTH, D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Scientific Meeting on November 16th, which had been circulated, were taken as read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: V. Gold, R. L. Wickens, A. D. Wright, D. E. Eddowes, J. H. Nicholls, A. R. L. Chivers, B. Atkinson, J. F. Wood, P. J. West, A. R. Burkin, J. Pisker, H. M. B. Buckell, A. R. Peacocke, R. E. Dodd, H. A. Rigby, E. S. Halberstadt, R. A. Reed, D. Mona Grove, J. F. Brown, B. W. Rogers, Max Perutz.

TILDEN LECTURE.

After a brief introduction, the PRESIDENT called on Professor J. M. Robertson to deliver this Tilden Lecture, entitled: "Diffraction Methods in Modern Structural Chemistry."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by Professor G. Ingle Finch, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Max Bergmann	1933	Date unknown.
Robert Frederick Blake	1890	November 25th, 1944
Henry Dreyfus	1941	December 30th, 1944.
Martin John Hoare	1920	Date unknown.
Edwin James Read	1895	November 23rd, 1944.
John Stafford	1941	January, 1944.

VACANCIES ON COUNCIL.

The names of the members of Council who retire at the next Annual General Meeting are as follows:

Vice-Presidents who have not filled the office of President:

Dr. F. H. CARR, Professor A. FINDLAY, and Professor C. S. GIBSON.

Elected Ordinary Members of Council:

Constituency I (South-East England). Dr. D. J. G. IVES, Dr. F. B. KIPPING, and Dr. H. W. Thompson.

Constituency II (Central and South-West England). Dr. G. S. HARTLEY, Dr. E. B. MAXTED, and Dr. H. B. WATSON.

Constituency III (North-West England, North Wales, and the Isle of Man). Dr. F. FAIRBROTHER and Dr. E. H. RODD.

Constituency IV (North-East England). Dr. J. W. BAKER.

Constituency V (Scotland). Professor J. W. COOK.

The above are ineligible to the same office until after the lapse of one year.

In June, 1944, the Council accepted the resignation of Professor C. W. DAVIES from the office of Honorary Secretary as from the end of September, and on the 16th November appointed Professor H. V. A. BRISCOE to this office until the next Annual General Meeting.

NOTICE is hereby given that in accordance with the Bye-Laws the following vacant places in the Council fall due to be filled at the Annual General Meeting to be held in London on the 19th April, 1945:

Honorary Secretary	*One vacancy.*
Vice-Presidents who have not filled the office of President	*Three vacancies.*
Elected Ordinary Members of Council:	
Constituency I (South-East England)	*Three vacancies.*
" II (Central and South-West England)	*Three vacancies.*
" III (North-West England, North Wales, and the Isle of Man)	*Two vacancies.*
" IV (North-East England)	*One vacancy.*
" V (Scotland)	*One vacancy.*

In accordance with Bye-Law 23, the Council have nominated Professor H. V. A. BRISCOE to the office of Honorary Secretary

Nominations by Fellows for the office of Honorary Secretary or Vice-President should be made in writing **signed by at least twenty Fellows.**

Fellows resident in a constituency may nominate any Fellow resident in that constituency for election to the Council to fill a vacancy among Elected Ordinary Members of Council allotted to that Constituency. Every such nomination must be in writing **signed by at least fifteen Fellows resident in that constituency.** For full particulars of the area of each Constituency, see page 3.

Every nomination must relate to one vacant place only, and must be accompanied by a signed declaration by the nominee that he is willing to accept office, if elected.

All nominations must be received by the Honorary Secretaries at the Society's Rooms **not later than Wednesday, the 14th February, 1945.**

Forms of nomination can be obtained on application to the General Secretary. Applicants should indicate the vacancy for which the form is required.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to:

(*a*) The Chemical Council for a grant of £50 towards the cost of summaries of papers appearing in the Journal for 1944.

(*b*) The Society of Dyers and Colourists for a contribution of £10 10*s*. to the Library for 1944.

(*c*) Mr. N. C. B. Hay for presenting sets of the Journal and Abstracts A.

RETIREMENT OF GENERAL SECRETARY.

The Council announce with regret that they have received from Mr. S. E. CARR an intimation that in the summer of 1945 he wishes to retire from the office of General Secretary, after serving the Society for 43 years.

HARRISON MEMORIAL PRIZE, 1944.

The Harrison Memorial Prize Selection Committee has awarded the Harrison Memorial Prize for 1944 to Dr. LESLIE F. WIGGINS, of Birmingham University. The presentation will be made at the Annual General Meeting of the Society on April 19th, 1945.

FELLOWSHIP.

The following 48 candidates were elected Fellows of the Chemical Society on December 14th, 1944:

Dennis Victor Arnold.
Bernard Atkinson.
Arthur Sydney Bailey.
George Beeston.
Mary Alice Birch.
Margaret Cecilia Jackson Boyle.
Helen Monamy Bayldon Buckell.
Herbert Charles Butcher.
Kenneth Leopold Butcher.
Marie Evelyn Coates.
William Percival Coldrick.
Edmund Allaway Cooke.
Brian Milner Cowburn.
John Stuart Michael Dashwood.
Ronald Leonard Denyer.
George Alan Garton.
Victor Gold.
Dorothea Mona Grove.
Donald William Grover.
Cledwyn Ronald Stephen Harries.
Thomas Arthur Heppenstall.
Philip Sidney Hetherington.
Geoffrey Holt.
Gordon Hopkins.
Kenneth John Ivin.
Douglas William Jopling.
Albert Ernest Judd.
Boris Nicholas Levitsky.
Israel Marszak.
Wilfred John Oldham.
Sydney Pickles.
Kenneth Reginald Rees.
Ronald Herbert Smith.
Fred Raymond Stafford.
Alfred Thomas Steadman.
Tom Thornley.
John Lucas Turner.
Dorothy Mary Usher.
Leonard Eric Ward.
Horace Edward Watson.
Ernest Edmund Wells.
Peter John West.
Vincent Henry Westlake.
John Stanley Whitehurst.
Robert Louis Wickens.
John Francis Wood.
Arthur Desmond Wright.
John Paterson Young.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, February 19th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Abbott, William Christopher. Certificate of the Science and Arts Department, 2nd Class Inorganic Chemistry. Certificated Dispenser, Society of Apothecaries. British. Chief Medical Officers Department, Ministry of Supply, Shell Mex House, Strand, W.C. 2. Medical Stores Officer. *Signed by :* J. T. Hewitt, Clarence Smith, W. C. Slater.

(b)**Anderson, Lewis Charles,** A.R.I.C. British. 56, Long Road, Newton Heath, Manchester, 10. Technical Assistant, Ministry of Supply. *Signed by :* D. S. Stephens, G. Spencer, C. G. Childs.

(b)**Arnall, Paul,** Higher School Certificate (Northern Univ.), Regd. Student, R.I.C. British. 52, Prouds Lane, Bilston. Junior Analytical Chemist at the Midland Tar Distillers, Ltd. *Signed by :* C. S. Kipping, F. G. Broughall, E. N. White.

†**Barrett, Eric George Victory,** B.Sc. and Ph.D.(Lond.), A.R.I.C., A.M.I.Chem.E., A.R.P.S. British. c/o Elliott & Sons, Ltd., Park Road, Barnet. Chief Chemist. *Signed by :* Henry Terrey, O. L. Brady, H. J. Evans, L. F. Gilbert.

†**Baxter, Arthur,** M.A. and B.Sc. (Oxon), A.R.I.C. English. 15, Hullah Lane, Wrexham. *Signed by :* Frank C. Buckley, W. Hodgson, W. F. Bennett.

†**Beer, Roger John Sidney,** B.A.Hons. (Oxon). British. Balliol College, Oxford. Research in Organic Chemistry for degree of D.Phil. at the Dyson Perrins Laboratory, Oxford. *Signed by :* R. P. Bell, F. E. King, W. Baker.

†**Bere, Charles Montague,** M.Sc. (Lond.), F.R.I.C. British. Municipal College, Portsmouth. Senior Lecturer in Chemistry. *Signed by :* A. M. Ward, F. Hemming, L. Crombie.

†**Bevan, Tom Harry,** B.Sc.Hons. (Bristol). British. Orchard View, Chilcompton, nr. Bath. Research Chemist. *Signed by :* E. L. Hirst, J. K. N. Jones, T. Malkin.

†**Bottomley, Warwick,** Science graduate (Sydney). British. 2, Cambridge Street, North Sydney, N.S.W. Organic Chemistry Honours Student, University of Sydney. Appointed Research Chemist to Drug Panel of Western Australia State Department of Industrial Development from January, 1945. *Signed by :* J. C. Earl, Thomas Iredale, Adrien Albert.

(b)**Boyce, Eric Arthur,** A.R.I.C. British. 11, Briar Road, Skellow, Doncaster. Resident Chemist for Doncaster Amalgamated Collieries Limited at the Central Laboratory, Brodsworth Main Colliery. *Signed by :* G. Lawton, H. J. T. Ellingham, R. Leslie Collett.

†**Brady, Thomas Gerard,** M.Sc. (N.U.I.), Ph.D. (Munich), A.R.I.C. Irish. 7, Idrone Terrace, Blackrock, Co. Dublin. Assistant Lecturer in Biochemistry, University College, Dublin. *Signed by :* Vincent C. Barry, A. G. G. Leonard, Thos. J. Nolan.

†**Broomhead, Charles,** A.R.I.C. British. 16, Neville Road, Waterloo, Liverpool, 22. Analytical Chemist. *Signed by :* L. G. Townsend, A. Ormrod, S. C. Glass.

†**Campbell, Sydney Glenroy,** A.R.I.C. British. Nunwood, Apperley Bridge, Bradford. Grease Research Chemist, Bradford Corporation Sewage Works. *Signed by :* Arnold Breare, L. A. Jordan, S. H. Bell.

†**Chamberlain, George Humfrey Neville,** B.Sc. (Lond.), A.R.I.C. British. 14, Oaklea Avenue, Hoole, Chester. Research Chemist. *Signed by :* David S. Penny, R. R. Baldwin, T. P. Hughes.

Chapman, Frank, M.A. (Cantab.). British. 78, Brooklands Avenue, Fulwood, Sheffield, 10. Research Chemist. *Signed by :* Brynmor Jones, E. Gertrude Turner, D. Woodcock.

†**Chard, Sylvester John Herbert Owen,** B.Sc.Hons. (Wales), University of Wales Teachers' Diploma in Education. British. 1, Herbert Street, Bridgend. Assistant Lecturer in Chemistry, University College, Cardiff. *Signed by :* W. J. Jones, N. M. Cullinane, S. T. Bowden.

†**Coles, Romney,** B.Sc.Hons. (Lond.), A.R.I.C., Diploma of Education. British. The Brake, St. Austell. Senior Chemistry Master, The King's School, (Canterbury), at Carlyon Bay, St. Austell. *Signed by :* N. K. Adam, A. J. Allmand, H. W. Cremer.

†**Comely, Richard Michael,** B.Sc. (Lond.), A.R.I.C. British. 26, Ismay Road, Chaddesden. Research Chemist. *Signed by :* R. Souter, D. S. M. Davis, James J. Allen.

†**Consden, Raphael,** B.Sc. and Ph.D. (Lond.). British. 12, Miles Hill Road, Leeds, 7. Research Chemist at Wool Industries Research Association. Part-time lecturer in Chemistry at College of Technology, Leeds. *Signed by :* Henry Phillips, L. F. Story, John Barritt.

†**Cooke, Edward Vincent,** B.Sc.Hons. (Manc.), application for A.R.I.C. being made. British. Heybury, Prestbury Lane, Prestbury, nr. Macclesfield. Research Chemist employed by I.C.I., Ltd. (Dyestuffs Division). *Signed by :* Colin Campbell, G. N. Burkhardt, A. Melrose.

(b)**Cooper, Ronald Lifton,** B.Sc.Hons. (Lond.), A.R.I.C. British. 28, Beechwood Rise, Watford. Works Chemist to a Gas Company. *Signed by :* E. de Barry Barnett, R. C. Watkins, Cecil L. Wilson.

†**Crowl, Victor Terrell,** B.Sc. and Ph.D. (Lond.), D.I.C., A.R.C.S., A.R.I.C. British. 25, Laureston Avenue, Heysham. Technical Assistant. *Signed by :* R. E. Goddard, Mark Guter, Homi E. Eduljee.

(b)**Dalziel, Keith,** B.Sc.Hons. (Lond.), A.R.I.C., A.R.T.C. (Salford). British. 12, Symons Street, Higher Broughton, Salford, 7. Chemical Laboratory Technician, Manchester Victoria Memorial Jewish Hospital. *Signed by :* Isaac Goodman, W. M. Roberts, E. Tidd.

†**Dawson, John Keith,** B.Sc.Hons. (Birm.). British. 440, Belt Road, Hednesford. Research Assistant. *Signed by :* L. L. Bircumshaw, M. Stacey, Stanley Peat.

(b)**Doyle, Joseph James,** B.Sc.Hons. (Glas.), A.R.T.C., A.R.I.C. British. 104, Aros Drive, Mosspark, Glasgow, S.W. 2. Assistant Chemist, William Beattie, Ltd. *Signed by :* Hugh C. Moir, Henry G. A. Anderson, Edmund Bishop.

†**Dutton, Leonard Cartlidge,** A.R.I.C. British. c/o Virol Ltd., Hanger Lane, Ealing, W. 5. Biochemist. *Signed by :* Eric C. Wood, A. J. Amos, D. W. Kent-Jones.

Edgington, Ben, B.Sc. (Lond.), F.R.I.C., M.I.Chem.E. British. 22, Chantrey Road, West Bridgford. Chemical Engineer. Part-time research student, University College, Nottingham. *Signed by :* R. Banks, H. Barnes, T. Hagyard.

(b)**Evans, David Wilfred Shawyer,** B.Sc.Hons. (Lond.), A.R.I.C. British. 1, Ashfield Place, Llanfaes, Brecon. Shift Chemist, Coke-Oven Plant. *Signed by :* John C. Roberts, E. O'F. Walsh, D. O. Jordan.

‡**Firrell, John Pindar,** B.Sc. (Lond.), A.R.I.C. British. 14, Priory Hill, Dartford. Chief Chemist, Dartford Paper Mills, Ltd. *Signed by :* John W. Corran, R. A. Morton, R. O. Griffith.

†**Ford, John Henry,** B.Sc. (Lond.), A.R.I.C. British. 97, Erith Road, Belvedere. Chemist (C.C.I. Ministry of Supply). *Signed by :* A. S. Nickelson, A. D. Wright, J. A. V. Willis.

†**Fraser, Robert Alexander,** B.Sc. (Lond.), A.R.I.C. British. 117b, Uxbridge Road, Hampton Hill. Analytical Chemist. *Signed by :* W. H. Hoffert, J. D. Davies, Keith H. V. French.

‡**Gardner, Frank,** Inter.B.Sc. British. 32, Cherry Orchard Road, Handsworth Wood, Birmingham, 20. Chemist at Birmingham Gas Works. *Signed by :* J. Cooper Duff, Brian B. Bach, J. N. Friend.

***Gibbon, William Ewan,** Matriculation (London Univ.). British. 29, Penallta Road, Ystrad Mynach, Hengoed. Assistant Chemist, Central Laboratory, Powell Duffryn, Limited. *Signed by :* K. S. McManus, N. T. Simmons, J. F. Byrne.

(b)**Gordon-Teall, Dennis.** Has completed two years full-time study at College in chemistry and is of B.Sc.—A.R.I.C. standard. British. 39, Regent Street, Leamington Spa. Full-time study of Chemistry. *Signed by :* Kenneth Gardner, T. R. Andrew, Charles F. Watts.

(a)**Guttmann, Steffi.** Student at London University. German. 22, Lee Road, Mill Hill East, N.W. 7. Laboratory Assistant. *Signed by :* N. A. C. Friend, B. Ellis, Roger Paget.

†**Hammond, Roy,** B.Sc.Hons. (Lond.), F.R.I.C. British. 42, Firwood Avenue, Oaklands, St. Albans. Chemist with I.C.I. (Plastics), Ltd. *Signed by :* W. Taylor, J. E. Wynfield Rhodes, R. H. Stanley.

Hassall, Cedric Herbert, M.Sc., A.N.Z.I.C. British. Chemistry Department, University of Otago, Dunedin, N.Z. University teacher. *Signed by :* F. G. Soper, S. N. Slater, F. N. Fastier.

Hill, Levi Mellor. British. 365, Wharton Road, Winsford. Research Chemist, I.C.I. (Alkali), Ltd. *Signed by :* F. A. Freeth, John Ferguson, L. M. Clark.

***Hilldrith, Gwendoline Ruth,** B.Sc. (Lond.). English. 98, Shooters Hill Road, Blackheath, S.E. 3. Student training for teaching. *Signed by :* Mary S. Lesslie, Margaret M. Jamison, D. M. Hall.

†**Holland, David Oliver,** B.Sc. (Lond.), A.R.I.C. British. 52, Goring Way, Greenford. Research Chemist. *Signed by :* F. A. Robinson, B. Arthur Hems, E. T. Borrows.

†**Homer, John Arthur,** B.Sc. (Dun.), A.R.I.C. British. 93, Lewis Street, Walsall. Chemical Research, Ministry of Information. *Signed by :* R. Eryl Williams, A. D. Mitchell, S. W. Collins.

†**Horsley, Thomas Edward Victor,** B.Sc. (Lond.), A.R.I.C. British. 14, Newbury Court, Hermon Hill, Wanstead, E. 11. Analytical Chemist (Food and Drugs). *Signed by :* B. A. Ellis, H. Egan, E. G. N. Greaves.

(b)**Howieson, William,** B.Sc.Hons. (Glas.). Scottish. c/o Mrs. Brown, 107, Musters Road, West Bridgford. Research Chemist at Boots Pure Drug Co., Ltd. *Signed by :* W. Wilson, J. W. Minnis, R. Michaelis.

†**Humphreys, Raymond George,** B.Sc. (Lond.), A.R.I.C. British. Holmdene, Tubbenden Lane, Orpington. Research Chemist. *Signed by :* Henry Terrey, B. Dudley Sully, Denis C. Quin.

†**Hutchison, Thomas,** A.R.I.C. British. 363, Pilton Avenue, Edinburgh, 5. Technical Chemist, T. and H. Smith, Ltd. *Signed by :* Wm. Mitchell, W. F. Martin, Donald C. Wilson.

†**Hutton, Gerald Charles,** B.Sc. (Lond.), A.R.I.C. British. 2, Station Flats, London Road, Reigate. Chemical analyst in works laboratory. *Signed by :* C. H. R. Gentry, G. Kohnstam, M. L. Smith.

***Ingram, Donald William,** B.Sc.Hons. (Birm.) not yet conferred. British. 42, Westbourne Street, Walsall. Research Assistant, D.S.I.R. *Signed by :* L. L. Bircumshaw, M. Stacey, Stanley Peat.

†**Kaye, Anthony Harmsworth,** B.Sc. (Lond.), A.R.I.C. British. Manbré and Garton, Ltd., Winslow Road, Hammersmith, W. 6. Technical Manager. *Signed by :* Alan M. Maiden, H. Baines, J. Kenyon.

†**Kelly, Hugh Edward,** F.R.I.C. British. John Smith's Tadcaster Brewery Co., Ltd., Tadcaster. Head Chemist. *Signed by :* Alex. Findlay, R. Leslie Collett, H. J. T. Ellingham.

†**Kilner, Ernest,** B.Sc. (Lond.), A.R.I.C. British. Constantine Technical College, Middlesbrough. Lecturer in Chemistry. *Signed by :* F. R. Williams, R. W. Ancrum, P. A. Lintern.

†**Lawrence, Jack,** B.Sc. (Lond.), A.R.I.C. British. 3, Mayne Avenue, Luton. Works Manager and Chief Chemist, Alcock (Peroxide), Ltd. *Signed by :* V. W. Slater, A. N. C. Bennett, G. G. Durrant.

(b)**London, David Lockwood,** B.Sc. (Lond.). English. 19, Ernle Road, Wimbledon, S.W. 20. Analytical and Research Chemist at Jones, London and Jarrard, Ltd. *Signed by :* T. H. Fairbrother, C. K. Ingold, H. G. Poole.

†**Longbottom, Kenneth William,** A.R.I.C. British. 88, Bennetthorpe, Doncaster. Chemist and Metallurgist. *Signed by :* G. Lawton, H. J. T. Ellingham, R. Leslie Collett.

†**Mackie, Archibald T.,** A.R.I.C. British. 101, Hope Road, Brooklands, Sale. Analytical Chemist. *Signed by :* Henry G. A. Anderson, A. B. Crawford, F. Rumford.

‡**Marshall, Ian,** B.Sc.Hons. (L'pool). British. 68, Valley Road, Welwyn Garden City. Research Chemist. *Signed by :* Ivan Harris, Kathleen W. Robertson, P. A. Small.

†**Miall, Lawrence MacKenzie,** B.A.Hons. (Cantab.). British. 15, Thurlow Road, N.W. 3. Chemist, employed by Kemball, Bishop & Co., Ltd. *Signed by :* Stephen Miall, A. L. Bacharach, E. F. Armstrong.

(b)**Miller, Ronald Bruce,** B.Sc. (N.Z.). British. Knox College, Dunedin, N.E. 1. Chemical research. *Signed by :* F. G. Soper, S. N. Slater, F. N. Fastier.

†**Mills, James,** B.Sc.Hons. and Ph.D. (Dun.). British. 5, Bewley Grove, Acklam, Middlesbrough. Research Chemist (extra-mural branch of the Ministry of Supply, A.R.D.). *Signed by :* P. L. Robinson, W. M. Madgin, H. L. Riley.

†**Mitchell, John,** B.Sc. (Lond.), A.R.I.C. British. Crowcroft, Collier Lane, Ockbrook. Assistant Chemist, I.C.I. Dyestuffs Division. *Signed by :* H. F. Clay, R. S. Kahan, D. T. Sarfas.

(a)**Moss, Frank Anthony James.** English. 37, Norman Close, Romford. Studying in final year of B.Sc., S.W. Essex Technical College, Walthamstow. *Signed by :* H. Holness, R. W. Jukes, I. L. Finar.

(b)**Neesham, George Frederick,** A.R.I.C. British. 84, New Villas, Baxterley, nr. Atherstone. Assistant Colliery Chemist. *Signed by :* S. W. Sleigh, K. Gardner, C. F. Watts.

†**Olsen, Norman,** A.R.I.C. British. 12, Calton Avenue, Liverpool, 15. Chemist, Liverpool Gas Company. *Signed by :* L. G. Townsend, A. Ormrod, S. C. Glass.

†**Owen, William John,** A.R.I.C. British. 41, Waterpark Road, Prenton, Birkenhead. Chemist, Brotherton & Co., Ltd. *Signed by :* Dick Emsley, Paul Dalley, George Brearley.

***Owston, Philip George,** B.Sc.Hons. (Sheffield). British. 109, Blackheath Park, Blackheath, S.E. 3. Research Chemist (Experimental Officer in Ministry of Supply). *Signed by :* Brynmor Jones, R. D. Haworth, Arthur W. Chapman.

(b)**Pearson, Maurice Herbert.** Higher School Certificate (Lond.). British. 10, Purley Hill, Purley. Civil Servant, Professional and Technical, Ministry of Supply. *Signed by :* G. H. Jeffery, D. M. Cowan, Arthur I. Vogel.

***Poole, John Bescoby,** B.A. (Oxon). British. 200, Iffley Road, Oxford. Research Chemist. *Signed by :* Ronald P. Bell, W. Baker, S. G. P. Plant.

Prosser, John, B.Sc.Hons. (Lond.). British. 46, The Parade, Cardiff. Works Chemist, Heigham & Co. *Signed by :* H. B. Watson, David P. Evans, W. D. Williams.

(b)**Robinson, Stanley Richard,** B.Sc.Hons. (Lond.), A.R.C.S., A.R.I.C. British. 20, Thorpedale Road, Finsbury Park, N. 4. Research Chemist. *Signed by :* G. D. Buckley, L. J. Haynes, Gerald H. Hargreaves.

(b)**Robson, Ian Kenneth Miles,** B.Sc.Hons. (Lond.), A.R.C.S. British. 16a, Victoria Rise, Clapham Common, S.W. 4. Research Student. *Signed by :* E. R. H. Jones, L. N. Owen, L. J. Haynes.

†**Rogers, John,** B.A.Hons. (Cantab.), M.Sc.Tech. (Manc.), A.R.I.C. British. 521, Barlow Moor Road, Chorlton-cum-Hardy, Manchester, 21. Chemist employed by Imperial Chemical Industries, Ltd. *Signed by :* G. Landells, J. T. McCombie, R. G. R. Bacon.

†**Savaage, Frank,** M.A. and B.Sc. (Oxon). British. 11, Crooksbarn Lane, Norton, Stockton-on-Tees. Industrial Chemist (Sales Control). *Signed by :* M. P. Applebey, A. J. Prince, J. Hughes.

(b)**Sedley, Walter Thomas,** National Certificate in Chemistry. British. 28, Princes Avenue, Eastham. Laboratory Assistant employed by Lobitos Oilfields, Ltd. *Signed by :* A. McGookin, L. McGrath, F. S. Archer.

Silverton, Joseph. British. 58, Bramley Road, Worthing. Pharmaceutical Manufacturing Co., Ltd., Cheltenham. *Signed by :* B. W. Anderson, S. G. Jarrett, J. G. Green.

(a)**Smith, Derek Bryce.** British. 38, Grosvenor Gardens, Woodford Green. 2nd year B.Sc. student. *Signed by :* H. Holness, R. W. Jukes, I. L. Finar.

***Smith, Mervyn John Hillier,** B.Pharm. (Wales), A.R.I.C. British. Tremain, Llantarnam. Lecturer in Pharmaceutical Chemistry, The Technical College, Cardiff. *Signed by :* John Ormston, H. B. Watson, W. D. Williams.

(b)**Smithies, Walter Rahe,** B.Sc.Hons. (L'pool), A.R.I.C. British. 6, Agnes Road, Blundellsands, Liverpool, 23. Assistant Chemist at British Insulated Cables, Ltd. *Signed by :* Eric W. Mills, Joseph F. Jackson, James F. Sumner.

†**Spencer, Edmondson,** D.Sc. (Lond.), A.R.C.S., A.R.S.M., F.R.I.C., F.Inst.Chem.Eng. British. c/o Bird & Co., Clive Street, Calcutta. Technical Adviser, Bird & Co. *Signed by :* Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.

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(b)**Sturgeon, Bennett,** London InterB.Sc. British. 542, Upper Brentwood Road, Gidea Park. Student at Queen Mary College for B.Sc.(Hons.) in Chemistry. *Signed by :* J. R. Partington, H. D. K. Drew, W. H. Patterson.

***Swift, Gordon,** B.Sc.Hons. (Birm.). British. 1, Russell Road, Moseley, Birmingham, 13. Research Assistant. *Signed by :* M. Stacey, L. F. Wiggins, L. L. Bircumshaw.

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†**Taylor, Alfred McMullon,** B.Sc.Hons. (Lond.), F.R.I.C. British. Stone Hall Lodge, Church Hill, Winchmore Hill, N. 21. Analytical Chemist with Messrs. Parry & Ferguson. *Signed by :* F. J. Llewellyn, D. J. G. Ives, George W. Ferguson.

***Thomas, Brian Richard John,** B.Sc.Hons. (Birm.). British. 186, Hall Green Road, West Bromwich. Research Assistant. *Signed by :* L. L. Bircumshaw, M. Stacey, Stanley Peat.

†**Thomas, William David Emrys,** B.Sc.Hons. and Ph.D. (Wales), A.R.I.C. British. Myrtle Hill, Trebanos, Swansea. Research Chemist. *Signed by :* J. E. Coates, A. R. Ubbelohde, R. Robertson.

†**Thompson, George,** M.Sc. (Q.U.B.), A.R.I.C. British. Carfax, 61, Bell Road, Sittingbourne. Industrial Chemist (Paper and Pulp Manufacture). *Signed by :* Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.

†**Thorneloe, Alfred Hubert,** M.A. (Cantab.), B.Sc. (Lond.), A.R.I.C. British. 25, Croham Manor Road, South Croydon. Technical Adviser, The Cement Marketing Co., Ltd. *Signed by :* W. A. Snow, E. S. F. Rogans, W. C. Peck.

***Tipper, Charles Frank Howlett,** B.Sc.Hons. (Bristol). British. 22, Elmdale Road, Tyndalls Park, Bristol, 8. Research Chemist. *Signed by :* E. B. Maxted, H. D. Springall, T. Malkin.

†**Tyler, Cyril,** B.Sc.Hons. and Ph.D. (Leeds), A.R.I.C. British. Department of Agricultural Chemistry, The University, Reading. Lecturer in Agricultural Chemistry. *Signed by :* H. Bassett, G. H. Cheesman, D. Roy Maxted.

‡**Wallace, James Russell,** 8 Years Chemistry (gaining medal and honours) Heriot Watt College, 30 years experience in manufacture of fine chemicals. British. 36, Saughtonhall Avenue, Edinburgh, 12. Technical Chemist. *Signed by :* Wm. Mitchell, W. F. Martin, Donald C. Wilson.

†**Warne, Harry,** M.Sc.Tech. (Manc.), A.R.I.C., M.Inst.F. British. 6, Thornton Avenue, Audenshaw, Manchester. Technical Control Manager, Peter Spence & Sons, Ltd. *Signed by :* J. H. Harwood, J. Chatt, W. Cule Davies.

(b)**Weston, Vivian John.** National Certificate of the R.I.C. British. The Tynings, Chew Stoke, nr. Bristol. Junior Chemist at Messrs. Wm. Butler & Co., Ltd. *Signed by :* Leonard A. Bush, H. D Springall, Arthur Marsden.

†**White, Arthur Southan,** B.Sc. (Lond.), A.R.I.C., A.M.I.Chem.E. British. 6, Tansley Road, Crumpsall, Manchester, 8. Chemical Engineer. *Signed by :* W. R. H. Hurtley, W. J. Evans, S. G. Jarrett.

†**Whyatt, Gilbert Henderson,** B.Sc.Hons. (Manc.), A.M.I.Chem.E., A.R.I.C. British. Suffolk Chemical Co., Ltd., Ipswich. Manager. *Signed by :* Colin Campbell, J. B. M. Herbert, A. E. Gillam.

Wilson, Harry, A.R.I.C. English. 18, Clifton Crescent, Wheatley Hills, Doncaster. Chemist with British Bemberg, Ltd. *Signed by :* G. Lawton, R. Leslie Collett, H. H. Hodgson.

†**Wood, Cyril Christian,** M.Sc. (Lond.), A.R.C.S., D.I.C., F.R.I.C. British. 27, King Edward's Road, Ware. Chief Assistant Research Chemist to Allen & Hanburys, Ltd. *Signed by :* C. J. Eastland, Norman Evers, Wilfred Smith.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Dreger, Emil E.,** B.S. (North-western), M.S. and Ph.D. (Illinois). United States citizen. Colgate-Palmolive-Peet Co., 105, Hudson Street, Jersey City 2, N.J. Director of Research. *Signed by :* Foster Dee Snell.

‡**Mitchell, Harold Senior,** B.S. (Syracuse). American. Research Laboratories, Swift and Company, U.S. Yards, Chicago, 9. Chief Chemist. *Signed by :* Foster Dee Snell.

†**Munday,** Charles Walter, B.Sc. (Lond.). British. 119, Swingate Lane, Plumstead, S.E. 18. F/O R.A.F. (Navigator). Civil Occupation, Chemist with Chemical Inspection Department, Ministry of Supply. *Signed by :* L. A. Warren, K. Ebbutt.

†**Palmer, Charles Wilfred,** B.Sc.Tech. (Manc.), F.R.I.C. English. 1401, McGill College Avenue, Montreal. Vice-President, Canadian Celanese, Ltd., Montreal. *Signed by :* Leon Lorti, Ivan R. McHaffle.

(b)**Seshadri, Pennathur,** B.Sc.Hons. (Madras). British. Department of General Chemistry, Indian Institute of Science, Malleswaram, Bangalore. Undergoing a course and training in chemical engineering at the Indian Institute of Science, Bangalore. *Signed by :* T. R. Seshadri.

‡**White, William Harold,** M.A. (Western Ontario), Ph.D. (McGill), Seven years' research work at National Research Council, Ottawa. Canadian. 950, St. Urbain Street, Montreal. Director of Research. *Signed by :* Leon Lorti, Ivan R. McHaffle.

Whitworth, Edward Stanley. British. 24, Worsley Bridge Road, Sydenham, S.E. 26. Assistant Chemist, Molassine Co. At present serving with R.A.F. overseas. *Signed by :* E. S. F. Rogans.

* Reduced annual subscription. † Three-body. (a) Junior Membership two-body.
(‡) Two-body. (b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between December 20th, 1944, and January 18th, 1945. This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal.*

" Alkyl derivatives of sulphapyridine." By W. KELLY and W. F. SHORT.

" Catalytic hydrogenation of pyrene." By J. M. L. CAMERON, J. W. COOK, and W. GRAHAM.

" Polycyclic aromatic hydrocarbons. Part XXX. Synthesis of chrysenols." By J. W. COOK and (MISS) R. SCHOENTAL.

" Experiments on the synthesis of the pyrethrins. Part I. Synthesis of chrysanthemum monocarboxylic acid." By (MISS) I. G. M. CAMPBELL and S. H. HARPER.

" Researches in the phenanthridine series. Part VI. The relationship between structure and trypanocidal properties." By L. P. WALLS (with a note by C. H. BROWNING, K. M. CALVER, and M. W. LECKIE).

" An ' ortho effect ' in the formation of thionaphthenopyrazoles." By (the late) E. W. MCCLELLAND and P. W. SMITH.

" The reaction of some arylsulphonylben*zis*othiazolones with acetic anhydride and potassium acetate." By F. S. FOWKES and (the late) E. W. MCCLELLAND.

" Molecular volume and structure. Part IX." By T. W. GIBLING.

" 4-(4'-Aminobenzenesulphonamido)resorcinol and some related compounds." By D. H. BARTON, W. H. LINNELL, and N. SENIOR.

" Synthesis of 4-hydroxy-5 : 6-(2' : 3'-pyrido)quinoline (4-hydroxy-*m*-phenanthroline)." By W. O. KERMACK and W. TEBRICH.

" Synthetical and stereochemical investigations of reduced cyclic bases. Part I. Hydrogenation products of indole and the exhaustive methylation of an *N*-methyloctahydroindole." By F. E. KING, J. A. BARLTROP, and R. J. WALLEY.

" Some green pigments of the phthalocyanine series." By J. W. HAWORTH, I. M. HEILBRON, D. H. HEY, R. WILKINSON, and (the late) E. F. BRADBROOK.

" Synthesis of derivatives of taurinamide." By A. A. GOLDBERG.

" The stereoisomeric αα'-di-α-naphthylsuccinic acids." By F. E. KING and T. HENSHALL.

MAY 1 - 1945
TECHNOLOGY DEPT.

February, 1945

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, March 15th, 1945, at 2.30 p.m.

Liversidge Lecture on " Reactions in Monolayers," by Professor E. K. Rideal, M.B.E., M.A., D.Sc. F.R.S.

Thursday, April 19th, 1945.

Annual General Meeting and the **Presidential Address.** (Further particulars will be announced.)

OUTSIDE LONDON.

LEEDS.

Tuesday, March 6th, 1945, at 5.15 p.m.

5.15 p.m. Film entitled " Sulphonamide Therapy."
6.0 p.m. Light refreshments.
6.30 p.m. Discussion on " The Repercussions of Modern Theoretical Developments on the Methods of Teaching Chemistry in Schools," to be opened by Professor F. G. Tryhorn.
To be held in the Chemistry Lecture Theatre of the University. Joint meeting with Leeds University Chemical Society.

MANCHESTER.

Friday, March 2nd, 1945, at 6 p.m.

Lecture on " The Chemical Structure of Starch," by Professor E. L. Hirst, D.Sc., F.R.S. To be held in the Grand Hotel, Aytoun Street. Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry.

Thursday, March 22nd, 1945, at 6 p.m.

Liversidge Lecture on " Reactions in Monolayers," by Professor E. K. Rideal, M.B.E., M.A., D.Sc., F.R.S. To be held in the Chemistry Department of the University. Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry.

ST. ANDREWS AND DUNDEE.

Thursday, April 26th, 1945, at 4.30 p.m.

Lecture on " The Structure and Chemistry of Metallic Crystals," by Professor G. D. Preston, Sc.D. To be held in the Chemistry Department, University College, Dundee.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, February 15th, 1945, at 2.30 p.m.

Professor A. FINDLAY, M.A., D.Sc., Vice-President, was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Scientific Meeting of January 18th were read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: W. C. Wetherell, W. A. Bayliss, W. Haining, M. Elliott, James S. Moffatt, Audrey R. Hawdon, Paul Jefferies, Erika Grunberg.

SCIENTIFIC COMMUNICATIONS.

The following papers were read:

"Molecular compounds between amines and sulphur dioxide. A comment on Jander's theory of ionic reactions in sulphur dioxide." By L. C. BATEMAN, E. D. HUGHES, and C. K. INGOLD.

"Experiments on the synthesis of the pyrethrins. Part I. Synthesis of Chrysanthemum monocarboxylic acid." By S. H. HARPER.

"Studies on the chemical constitution of colchicine." By N. BARTON, G. L. BUCHANAN, J. W. COOK, W. GRAHAM, and J. D. LOUDON.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Guy Dunstan Bengough	1902	January 20th, 1945.
James Kerry Burbridge	1896	January 27th, 1945.
Sir Ernest H. Cook	1875	January 18th, 1945.
Alexander Duckham	1897	February 1st, 1945.
Douglas Archibald MacCallum	1902	January 26th, 1945.
Harry Sampson Wills	1909	August 24th, 1942.
Jason Hall Worrall	1884	January 1st, 1945.
Killed in Action.		
Capt. George C. Miller	1938	October 9th, 1944.

CONGRATULATIONS.

The Council have sent congratulations to the following Fellows who completed 50 years of Fellowship on February 21st, 1945:

David B. Butler.
Francis H. Carr.
Harry Harris.
Arthur Marshall.
Thomas C. Sharrott.
Herbert F. Stephenson.
Thomas C. Warrington.
Henry S. Young.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Messrs. F. Bergel, A. F. Campbell, A. J. Crockatt and A. P. Mieras for presenting publications of the Society, to Messrs. A. F. Campbell and G. W. Young for contributions to the Publications Fund, and to Sir E. John Russell for presenting a number of letters received by him from prominent Fellows.

RESEARCH GRANT.

A grant of £50 has been made to Dr. G. V. Raynor for a research on "The Constitution and the Theory of the Alloys of Aluminium with Transitional Metals."

NOMINATIONS FOR VACANT PLACES ON THE COUNCIL.

The following is the list of nominations for the new Council:

Vice-Presidents who have not filled the office of President. (*Three vacancies.*)

ARTHUR J. ALLMAND.	(London.)	HAMILTON MCCOMBIE.	(Cambridge.)
JAMES W. COOK.	(Glasgow.)	RONALD G. W. NORRISH.	(Cambridge.)
IAN M. HEILBRON.	(London.)	JOHN L. SIMONSEN.	(London.)
JAMES KENDALL.	(Edinburgh.)		

Ordinary Members of Council.

Constituency I. (S.E. England.) (*Three vancancies.*)

RONALD P. BELL.	(Oxford.)	RAYMOND J. W. LE FEVRE.	(London.)
WILLIAM JAMES M. COOK.	(London.)	ALEXANDER R. TODD.	(Cambridge.)
ERNEST H. FARMER.	(London.)	HAROLD KENNETH WHALLEY.	(London.)
STANLEY H. HARPER.	(Southampton.)		

Constituency II. (Central & S.W. England.) (*Three vacancies.*)

WILSON BAKER.	(Bristol.)	CECIL W. DAVIES.	(Aberystwyth.)
HUBERT T. S. BRITTON.	(Exeter.)	MAURICE STACEY.	(Birmingham.)

Constituency III. (N.W. England, N. Wales, & Isle of Man.) (*Two vacancies.*)

DONALD H. HEY.	(Wilmslow.)	WILLIAM A. SEXTON.	(Manchester.)
DOUGLAS W. HILL.	(Manchester.)	FRANK S. SPRING.	(Manchester.)

Constituency IV. (N.E. England.) (*One vacancy.*)

BRYNMOR JONES. (Sheffield.)

Constituency V. (Scotland.) (*One vacancy.*)

JOHN MONTEATH ROBERTSON. (Glasgow.)

FELLOWSHIP.

The following 57 candidates were elected Fellows of the Chemical Society on January 18th, 1945:

Sidney Cyril Abrahams.
Winifred Elisabeth Adams.
James Barrett.
William Alfred Bayliss.
William Gordon Bennett.
John Howard Benney.
Victor Biske.
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†**Stothard, Thomas Hall,** A.R.I.C. British. 3, Petersham Drive, Alvaston, Derby. Research Chemist, British Celanese, Ltd. *Signed by :* S. A. Miller, W. Hunter, P. F. C. Sowter.

Stringfellow, Roy. Chemist and Druggist, M.P.S. British. 58, Park Road South, Birkenhead. Pharmacist. *Signed by :* A. McGookin, Francis W. Kay, A. Robertson.

‡**Sufrin, Reuben,** B.Sc.Hons. (Lond.), A.R.I.C. British. 183, Colchester Road, Leyton, E 10. Biochemist, County Hospital, Farnham, and Lecturer in Bacteriology, S. E. Essex Technical College, Dagenham. *Signed by :* D. R. Dickinson, J. Barrett, R. W. Jukes.

Swannell, Bertram George, B.Sc.(Birm.). British. 115, Bedford Road, Wootton, Bedford. Lecturer, Luton Technical College. *Signed by :* L. L. Bircumshaw, F. W. Pinkard, M. Stacey.

Tárnoky, András László, B.Sc.Tech. (Manch.). Hungarian. 49, Cyril Mansions, Prince of Wales Drive, S.W. 11. Postgraduate student. *Signed by :* J. Kenyon, M. P. Balfe, A. Houston.

†**Taylor, Donald Bryce,** A.R.I.C. British. 55, Nook Rise, Wavertree, Liverpool, 15. Analytical Chemist. *Signed by :* Hubert M. Thompson, M. L. Meara, A. McGookin.

†**Taylor, George William Charles,** B.Sc. (Lond.), A.R.I.C., A.R.P.S. British. Scientific Officer (Research Chemist), Armament Research Department. *Signed by :* F. Stansfield, Stanley L. Thomas, T. M. Walters.

†**Thornton, Maurice James,** B.Sc. (Lond.), A.R.I.C. British. 49a, Barlow Moor Road, Didsbury, Manchester, 20. Research Chemist. *Signed by :* C. C. Addison, J. P. Rogers, A. R. Pinder.

†**Tonner, Daniel,** A.R.I.C. British. No. 8, Sandringham Terrace, Esplanade, Greenock. Chief Process Chemist, Messrs. John Walker & Co. (Sugar Refiners), Ltd. *Signed by :* F. Rumford, Henry G. A. Anderson, W. M. Cumming.

‡**Tréfouël, Jacques,** D.ès S., Member of Academie de Médicine. French. Pasteur Institute, 28, Rue de Docteur Roux, Paris. Director of the Pasteur Institute. *Signed by :* C. R. Harington, Harold King, James Walker.

†**Vineall, George John Charles,** B.Sc.(Lond.), F.R.I.C. British. 2, Valley Close, Alwoodley, Leeds. Chief Chemist, Ragosihe Oil Co., Ltd. *Signed by :* John Barritt, R. Leslie Collett, Henry Phillips.

†**Warner, Lionel William,** A.R.I.C., Graduate of the Institution of Chemical Engineers. British. 39, Limes Gardens, Wimbledon Park Road, Southfields, S.W. 18. Analytical Chemist and Chemical Engineer. *Signed by :* R. L. Edwards, A. J. V. Underwood, F. A. Lyne.

Whittaker, Charles Vernon. A.I.D. approved chemist. Served 3 years articles with the late Joseph Lones, F.R.I.C., F.C.S., Public Analyst. British. 12, Terry Street, Dudley. Chief Assistant Chemist to Joseph Lones Laboratories. *Signed by :* George H. Walker, V. S. George, Percy A. Tucker.

†**Williams, Ralph,** B.Sc. (Lond.), F.R.I.C. British. Westaways, Western Road, Goole. Works Chemist. *Signed by :* A. B. Gordon, J. Logan, R. Leslie Collett.

†**Williams, Reginald,** B.Sc.Hons. and Ph.D. (Lond.), F.R.I.C. British. 308, Park Road, Cwmparc, Treorchy, Rhondda. Chief Chemist, Nipa Laboratories, Ltd. *Signed by :* H. B. Watson, J. Ormston, W. D. Williams.

(b)**Willison, Geoffrey,** A.R.I.C. British. 6, Third Avenue, Bradford Moor, Bradford. Works Chemist. *Signed by :* J. M. Barrer, H. I. Stonehill, J. M. Phillipson.

‡**Wootten, Geoffrey Ronald.** 11 years experience in industrial analytical and research chemistry. British. Flat 2, 92, Westwood Hill, Sydenham, S.E. 26. Assistant Chemist. *Signed by :* W. Cunliffe, L. E. Campbell, Ernest A. Rudge.

(b)**Zatman, Leonard Joseph,** B.Sc. (Lond.), A.R.I.C. British. 7, Bellott Street, Manchester, 8. Research Chemist employed by Medical Research Council. *Signed by :* G. Leaf, H. S. Raper, A. Burawoy.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Hill, L. M., M.Sc. (Pietermaritzburg). Leather Industries Research Institute, Rhodes University College, Grahamstown. Research Officer in Inorganic Chemistry at the Leather Industries Research Institute, Grahamstown. *Signed by :* S. G. Shuttleworth, W. F. Barker.

‡**Holbrook, George Edward,** Ch.E., M.S., and Ph.D. (Michigan). U.S.A. Jackson Laboratory, E.I. du Pont de Nemours & Co., P.O. Box 525, Wilmington, 99, Delaware. Assistant Director, Jackson Laboratory. Research in the organic chemicals field. *Signed by :* W. S. Calcott, J. M. Tinker.

‡**Wang, Sigmund.** Chemical Engineer, Oslo Technical Institute. Manufacturer of wood Cellulose for Cellulose Products. Canadian. 25, Allen Street, Hawkesbury, Ontario. Manager of Laboratories, Canadian International Paper Company. *Signed by :* George R. Smith.

* Reduced annual subscription. † Three-body. (a) Junior Membership two-body.
‡ Two-body. (b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between January 18th and February 15th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal.*)

" The determination of small amounts of aluminium in spelter." By F. F. Pollak and E. F. Pellowe.
" The properties of freshly formed surfaces. Part V. A velocity-time equation for adsorption to dynamic surfaces." By C. C. Addison.
" Experiments in the piperidine series. Part I." By A. H. Cook and K. J. Reed.
" Experiments in the cœroxene and cœramidine series." By A. H. Cook and W. Waddington.
" A new synthesis of olivetol." By R. M. Anker and A. H. Cook.
" Apparatus for microtitrations with a glass electrode." By J. R. Catch, A. H. Cook, and J. A. Kitchener.
" On the theory of Brönsted's relation in acid-base catalysis." By J. Weiss.
" Dipole moment, acidity, and stereomerism." By A. Burawoy.
" Low pressure isothermals and heats of sorption." By A. G. Foster.
" The sorption of condensible vapours by porous solids. Part II. The validity of Gurwitsch's rule." By D. N. Broad and A. G. Foster.
" Comparative isothermals of H_2O and D_2O on porous solids." By D. N. Broad and A. G. Foster.
" Studies in the detoxication of catalyst poisons. Part I. General survey of some detoxicants." By E. B. Maxted.
" Nitration of 4-chloroquinaldine and 4-hydroxyquinaldine." By (Miss) B. E. Halcrow and W. O. Kermack.
" By-products in aromatic nitration. Part II. Nitration of diphenyl, quinoline, and benzophenone." By G. M. Bennett and J. F. Grove.
" New syntheses of heterocyclic compounds. Part III. Azaphenoxazines." By V. A. Petrow and E. L. Rewald.
" Colchicine and related compounds. Part V. The structure of Windaus's deaminocolchinol methyl ether." By N. Barton, J. W. Cook, and J. D. Loudon.
" The metal-catalysed reaction between acetylene and hydrogen. Part III. Some effects of added substances on the reaction over nickel." By J. Sheridan.
" The metal-catalysed reaction between acetylene and hydrogen. Part IV. Reaction over platinum." By J. Sheridan.
" The rapid determination of copper in brass." By F. F. Pollak and E. F. Pellowe.
" Compounds related to 4 : 4′-diaminodiphenylsulphone." By H. Burton and E. Hoggarth.
" The action of thionyl chloride on 2 : 4-dimethylthiazole-5-carboxylic acid." By W. R. Boon.

TECHNOLOGY DEPT
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March, 1945

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, April 19th, 1945.

The Hundred and Fourth Annual General Meeting of the Chemical Society will be held at Burlington House on Thursday, April 19th. At 11.30 a.m. the business portion will be held: (*a*) To receive the Report of Council, together with Statements of Accounts and Balance Sheets for the year ended December 31st, 1944; (*b*) To declare the election of Professor H. V. A. Briscoe as Honorary Secretary and of Elected Ordinary Members of Council for Constituencies IV and V; (*c*) To receive the report of the Scrutators on the ballot for Vice-Presidents who have not filled the office of President, and for Elected Ordinary Members of Council for Constituencies I, II, and III, and to declare the names of the Fellows duly elected; (*d*) To appoint Auditors for 1945.

At 12.45 for 1 p.m. Luncheon will be held at Stewart's Restaurant (corner of Piccadilly and Old Bond Street), and the price will be five shillings and sixpence (5*s*. 6*d*.), including coffee and gratuities (payable at the restaurant).

At 2.30 p.m.. The Longstaff Medal for 1945 will be presented to Professor N. V. Sidgwick, C.B.E., D.Sc., F.R.S., and the Harrison Memorial Prize for 1944 to Dr. Leslie F. Wiggins. The President, Professor W. N. Haworth, D.Sc., F.R.S., will deliver his Presidential Address entitled: "Starch."

Thursday, May 17th, 1945, at 5 p.m.

Hugo Müller Lecture, on "The Past and Future of Crystal Chemistry," by Professor J. D. Bernal, M.A., F.R.S. To be held in the Lecture Theatre of the Royal Institution, Albemarle Street, W. 1. (By kind permission of the Managers.)

OUTSIDE LONDON.

ST. ANDREWS AND DUNDEE.

Thursday, April 26th, 1945, at 4.30 p.m.

Lecture on "The Structure and Chemistry of Metallic Crystals," by Professor G. D. Preston, Sc.D. To be held in the Chemistry Department, University College, Dundee.

SHEFFIELD.

Friday, May 11th, 1945, at 6 p.m.

Lecture on "Recent Developments in Petroleum Technology," by Dr. A. E. Dunstan. Joint meeting with the University Chemical Society and the South Yorkshire Section of the Royal Institute of Chemistry. To be held at the University, Western Bank.

Friday, May 25th, 1945, at 6 p.m.

Lecture on "The Place of the Resonance Concept in Chemistry," by Mr. R. P. Bell, M.A., F.R.S. To be held at the University, Western Bank.

SOUTH WALES.

At Cardiff.

Thursday, May 24th, 1945, at 7 p.m.

Hugo Müller Lecture, on "The Past and Future of Crystal Chemistry," by Professor J. D. Bernal, M.A., F.R.S. To be held at University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, March 15th, 1945, at 2.30 p.m.

The PRESIDENT, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair, and welcomed the visitors present.

MINUTES.

The Minutes of the Scientific Meeting of February 15th, 1945, were taken as read and were signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: G. W. Wrzeszinski, I. G. C. Dryden, G. Kohnstam, Helmut Strauss, Joyce W. E. Brading, W. A. Smeaton, P. A. Griffin, R. J. Cole, Frank Shedden.

LIVERSIDGE LECTURE.

After a brief introduction, the President called on Professor E. K. Rideal, F.R.S., to deliver the Liversidge Lecture, entitled "Reactions in Monolayers."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by PROFESSOR A. FINDLAY, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
John Ewart Trounce Barbary	1911	February 5th, 1945.
Marmaduke Barrowcliff	1905	March 7th, 1945.
Wilbraham Tollemache Arthur Edwards	1898	Early in 1944.
Oliver Quibell	1886	February 19th, 1945.
Sir Duncan Randolph Wilson	1901	March 1st, 1945.

CONGRATULATIONS.

The Council have sent congratulations to Mr. Walter Collingwood Williams, who completed 60 years of Fellowship on March 5th.

HONORARY FELLOWS.

The following have been nominated by the Council as Honorary Fellows of the Society:

Sir Henry H. Dale, O.M., G.B.E., P.R.S.
Professor V. M. Goldschmidt.
Professor Frederic Joliot.
Professor Harold C. Urey.

Fellows wishing to lodge objections to the election of these should communicate with the Honorary Secretaries not later than Monday, May 14th, 1945.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to:

(*a*) Dr. F. H. Carr for a contribution to commemorate his completion of 50 years of Fellowship.
(*b*) Messrs. A. J. Clement, T. H. Hills, and W. H. Woodcock for presenting publications of the Society.
(*c*) The Faraday Society and the Institute of Brewing for contributions to the Library.

RESEARCH GRANTS.

Grants of £20 and £15, respectively, have been made to Mr. E. A. Braude (Imperial College) for a research on "Substituent effects in the oxotropic formation of the styrene system," and to Mr. Hugh W. B. Reed (University College, Southampton) for a research on "Experiemnts in the synthesis of pyrethrins."

ELECTION OF SCRUTATORS.

Dr. Mary S. Lesslie and Mr. L. S. Theobald have been appointed Scrutators to examine the voting papers for Vice-Presidents who have not filled the office of President and for Elected Ordinary Members of Council for Constituencies I, II and III.

FELLOWSHIP.

The following 107 candidates were elected Fellows of the Chemical Society on February 15th, 1945:

William Christopher Abbott.
Lewis Charles Anderson.
Paul Arnall.
Eric George Victory Barrett.
Arthur Baxter.
Roger John Sidney Beer.
Charles Montague Bere.
Tom Harry Bevan.
Warwick Bottomley.
Eric Arthur Boyce.
Thomas Gerard Brady.
Charles Broomhead.
Sydney Glenroy Campbell.
George Humfrey Neville Chamberlain.
Frank Chapman.
Sylvester John Herbert Owen Chard.
Romney Coles.
Richard Michael Comely.
Raphael Consden.
Edward Vincent Cooke.
Ronald Lifton Cooper.
Victor Terrell Crowl.
Keith Dalziel.
John Keith Dawson.
Joseph James Doyle.
Emil E. Dreger.
Leonard Cartlidge Dutton.
Ben Edgington.
David Wilfred Shawyer Evans.
John Pindar Firrell.
John Henry Ford.
Robert Alexander Fraser.
Frank Gardner.
William Ewan Gibbon.
Dennis Gordon-Teall.
Steffi Guttmann.
Roy Hammond.
Cedric Herbert Hassall.
Levi Mellor Hill.
Gwendoline Ruth Hilldrith.
David Oliver Holland.
John Arthur Homer.
Thomas Edward Victor Horsley.
William Howieson.
Raymond George Humphreys.
Thomas Hutchison.
Gerald Charles Hutton.
Donald William Ingram.
Anthony Harmsworth Kaye.
Hugh Edward Kelly.
Ernest Kilner.
Jack Lawrence.
David Lockwood London.
Kenneth William Longbottom.
Archibald T. Mackie.
Ian Marshall.
Lawrence MacKenzie Miall.
Ronald Bruce Miller.
James Mills.
Harold Senior Mitchell.
John Mitchell.
Frank Anthony James Moss.
Charles Walter Munday.
George Frederick Neesham.
Norman Olsen.
William John Owen.
Philip George Owston.
Charles Wilfred Palmer.
Maurice Herbert Pearson.
John Bescoby Poole.
John Prosser.
Stanley Richard Robinson.
Ian Kenneth Miles Robson.
John Rogers.
Frank Savaage.
Walter Thomas Sedley.
Pennathur Seshadri.
Joseph Silverton.
Derek Bryce Smith.
Mervyn John Hillier Smith.
Walter Rahe Smithies.
Edmondson Spencer.
Edward Severin Stern.
Donald MacPherson Stewart.
Eric Sidney Stockton.
Henry Stout.
John Clifford Street.
John Douglas Hipwell Strickland.
Bennett Sturgeon.
Gordon Swift.
Malcolm Henry Tankard.
Alfred McMullon Taylor.
Brian Richard John Thomas.
William David Emrys Thomas.
George Thompson.
Alfred Hubert Thorneloe.
Charles Frank Howlett Tipper.
Cyril Tyler.
James Russell Wallace.
Harry Warne.
Vivian John Weston.
Arthur Southan White.
William Harold White.
Edward Stanley Whitworth.
Gilbert Henderson Whyatt.
Harry Wilson.
Cyril Christian Wood.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, May 14th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

(b)**Adlington, Dennis,** B.Sc.Hons. (Sheffield). English. 7, Northumberland Avenue, Isleworth. Research Chemist, Anglo Iranian Oil Co. *Signed by:* R. D. Haworth, E. Gertrude Turner, Brynmor Jones.

†**Airey, Leslie,** B.Sc.Hons. (Lond.), A.R.I.C. British. 26, Westmorland Avenue, Welling. Analytical and Research Chemist. *Signed by:* A. S. Nickelson, E. Taylor, E. W. S. Press.

†**Albans, John William,** B.Sc.Hons. (Lond.), A.R.I.C. British. 127, Hawton Crescent, Wollaton Park, Nottingham. Industrial Biochemist. *Signed by:* John R. Jarratt, H. Barnes, B. Garforth.

†**Buckley, Clarence Fairbank,** B.Sc. (Lond.), A.R.I.C. British. 228, Perth Road, Ilford. Research Chemist, Howards & Sons, Ltd. *Signed by:* Walter E. Huggett, R. H. Lock, George Clark.

***Burgan, John Glyn.** British. 83, Elmham Road, Darnall, Sheffield, 9. Undergraduate reading for Honours Degree in Chemistry at Oxford University. *Signed by:* N. V. Sidgwick, P. R. Lewis, John Gadsby.

(b)**Carson, Robert George,** B.Sc.Hons. (Glas.), A.R.T.C., A.R.I.C. British. Bonsecouro, 6, Kilbrannan Drive, Greenock. Chemist with the Shell Refining and Marketing Co., Ltd. *Signed by :* Ezra Golombok, Edmund Bishop, John A. Cranston.

†**Chapman, Wilfred Eric,** B.Sc.Hons. (Leeds), A.R.I.C. British. 66, Penns Lane, Sutton Coldfield. Works Chemist at Messrs. Ernest Hawton & Co. *Signed by :* R. Consden, L. F. Story, S. Blackburn.

†**Clarke, Herbert Edmund,** M.A. and B.Sc. (Oxon), F.R.I.C. British. 14, Rosehill Mount, Manchester Road, Burnley. Chief Research Chemist. *Signed by :* John Graymore, E. G. Edwards, A. G. Owen.

Davidson, Hugh Wilson, B.Sc.Hons. (St. Andrews). British. 25, Kinkell Terrace, St. Andrews. Assistant Chemist at Guardbridge Paper Co., Ltd. *Signed by :* W. H. Banks, G. A. H. Elton, M. P. Balfe.

†**Downer, Archibald Walter Eric,** B.Sc.Hons. and Ph.D. (Lond.), A.R.I.C. British. 3, Ivycliffe Drive, Farnborough. Research Chemist. *Signed by :* A. P. L. Blaxter, S. G. Kendrick, A. J. M. Bailey.

†**Faulks, Allan James,** B.Pharm. (Lond.), A.R.I.C., Ph.C. British. Elmsdale, Kilmarnock Road, Kilmaurs. *Signed by :* A. G. Short, R. Leslie Collett, J. F. Gospel.

***Fry, Eric Sydney John,** B.Sc. (Lond.). British. 476, Devizes Road, Salisbury. Research Chemist. *Signed by :* H. N. Rydon, K. P. Harrison, D. W. Adamson.

‡**Gadsby, Gordon Neville,** B.Sc.Hons. and Dip.Ed. (Birm.). British. Maytrees, East Green Drive, Stratford-upon-Avon. Lecturer, Chemistry Branch, Military College of Science. *Signed by :* W. N. Haworth, E. L. Hirst, E. B. Knott.

Gindy, Munir, B.Sc.Hons. and M.Sc. (Fouad I University). Egyptian. Chemistry Department, Faculty of Science, Fouad I University, Abbassia, Cairo. Demonstrator in Chemistry. *Signed by :* Alexander Schönberg, A. Riad Tourky, F. G. Baddar.

Hey, Peter, Ph.C. British. Carhouse, Boroughbridge Road, Upper Poppleton. Assistant Lecturer in Department of Pharmacy and Pharmacology, University of Leeds. *Signed by :* F. R. Goss, F. Challenger, H. Burton.

‡**Hicks, Ronald,** A.R.T.C. (Salford), Higher National Certificate, Member Institute Sewer Purification, Associate Member Institute Sanitary Engineers. British. Burgh of Hamilton Sewage Purification Works, Bothwell Bridge, Bothwell, Glasgow. Works Manager and Chemist. *Signed by :* Clarence Jepson, Arnold Kershaw, C. B. O. Jones.

Hills, George Mason, M.A. and B.Sc. (Oxon), A.R.I.C. British. Church House, Pitton, Nr. Salisbury. Research Biochemist on staff of Medical Research Council. *Signed by :* H. N. Rydon, J. Howarth Williams, G. S. Hartley.

***Holker, James Ronald,** B.Sc.Hons. (Manc.). British. 48, Algernon Street, Monton, Eccles. Junior Chemist. *Signed by :* Colin Campbell, Lewis K. Evans, F. S. Spring, G. N. Burkhardt, T. H. H. Quibell.

†**Isherwood, Robert,** B.Sc.Hons. (Manc.), A.R.I.C. English. 170, Shear Brow, Blackburn. Organic Chemist. *Signed by :* C. G. Childs, D. S. Stephens, F. Ward.

†**Jarvis, Frank Woolgar,** B.Sc.Hons. (Sheffield), A.R.I.C. British. 130, Furniss Avenue, Dore, Sheffield. Research Chemist. *Signed by :* R. D. Haworth, Arthur W. Chapman, Brynmor Jones.

†**Jones, Frederick Victor,** B.Sc.Hons. (Lond.). British. 3, Dolphin Road, Slough. Research Chemist. *Signed by :* Robert Kerr, Ernest S. Hedges, Denis E. B. Greensmith.

†**Joseph, James Dillwyn,** A.R.I.C., P.A.Inst.W.E. British. Gladwyn, 421, Hyde Road, Gorton, Manchester, 18. Chemist and Bacteriologist, Manchester Corporation Waterworks. *Signed by :* H. Stevenson, W. H. Brindley, J. Kenner.

***Kaye, Albert Edward.** British. 32, Lauriston Road, Walton, Liverpool, 4. Reading for Honours Degree in Chemistry at Oxford University. *Signed by :* S. G. P. Plant, A. S. Russell, C. N. Hinshelwood.

(b)**Kenchington, Austin William,** B.Sc.Hons. (Birm.) conditional upon satisfying language requirement. British. 31, Victoria Road, Mortlake, S.W. 14. Research Chemist for British Rubber Producers Research Association. *Signed by :* E. H. Farmer, D. A. Sutton, G. F. Bloomfield.

(a)**Kenchington, Kenneth Walter Lloyd.** National Certificate in Chemistry. British. 4, Woodville Street, Woolwich, S.E. 18. Technical Assistant (Chemical Research) Ministry of Supply. *Signed by :* Arthur I. Vogel, G. H. Jeffery, F. Hudswell.

‡**Kerr, Carl Aloysius,** Ph.D. (Glas.), D.Sc. (Belfast), F.R.I.C. British. 14, Sherrardspark Road, Welwyn Garden City. Works Manager, Roche Products, Ltd. *Signed by :* Nathan C. Hindley, F. Bergel, A. Cohen.

†**Laxton, Albert Edward,** B.Sc.Hons. and M.Sc. (Lond.), A.R.I.C. British. 116, Lynmouth Road, Walthamstow, E. 17. Organic Chemist (Research), Messrs. Field & Co. (Aromatics), Ltd. *Signed by :* W. H. Shilling, R. Leslie Collett, H. J. T. Ellingham.

‡**Lee, Oscar Martin.** Student, Leatherseller's Company's Technical College, University of London, Battersea Polytechnic. Fifteen years experience in Food Manufacture, water treatment and sanitation in tropics. Army Officer in charge of food and water treatment and supply. English. c/o Professor Sir William Wright Smith, F.R.S.E., Inverleigh House, Edinburgh, 4. Captain, The Royal Army Service Corps. *Signed by :* J. Kenyon, A. Houston, W. Rogie Angus.

***Lord, Derek Drury,** B.Sc. (Lond.). British. Lyndhurst, 8, Cambridge Avenue, Bury Road, Rochdale. Research Student. *Signed by :* C. K. Ingold, H. G. Poole, E. S. Halberstadt.

†**Lucas, John Waring,** B.Sc. (Lond.), A.R.I.C. British. 39, Forest Road, Southport. Senior Technical Assistant. *Signed by :* Charles Louden, Harold H. Hutt, H. Jasperson.

†**McIntosh, Andrew Hamilton,** B.Sc.Hons. (Edin.). British. c/o Department on Insecticides, Rothamsted Experimental Station, Harpenden. Insecticides Chemist. *Signed by :* F. Tattersfield, K. A. Lord, George W. Cooke.

(b)**Martin, Leslie Edwin.** Student Royal Institute of Chemistry. British. 10, Hall Avenue, Timperley. Laboratory Assistant (Pathological) in the Medical Service. *Signed by :* J. Ormston, H. B. Watson, Marion Peeling.

†**Monk, Robert George,** B.Sc.Hons. and Ph.D. (Lond.), A.R.C.S., D.I.C., A.R.I.C. British. 116, Argyle Road, Saltcoats. Chemist. *Signed by :* H. Raymond Broomhall, A. Greville White, David Traill.

Morris, Douglas Sydney, B.Sc. (Lond.), A.R.C.S. Six years pre-graduate industrial experience (Plant control and analytical work). Three and a half years as an organic research chemist. British. Greenhurst, Bollin Hill, Wilmslow. Organic research chemist (chemotherapeutics) at British Schering Research Laboratories. *Signed by :* D. H. Hey, M. E. H. Fitzgerald, W. Tebrich.

†**Munro, Leslie Alexander,** M.A. (Oxon), F.R.I.C. British. Eagle House, Colston Avenue, Bristol, 1. Area Manager, Imperial Chemical Industries, Ltd. *Signed by :* Arthur Marsden, E. B. Maxted, F. H. Pollard.

(b)**Naish, Arthur Basil,** A.R.I.C. British. 48, Cleeve Hill, Downend, Bristol. Analytical Chemist. *Signed by :* E. B. Maxted, G. Davies, D. J. Barke.

***Neale, Francis Charles,** B.Sc.Hons. (Birm.). British. 86, Bournbrook Road, Bournbrook, Birmingham, 29. Research Student. *Signed by :* L. L. Bircumshaw, W. N. Haworth, M. Stacey.

†**Norton, Charles Roy.** London Inter.B.Sc. (External), 7½ years practical experience. British. 7, Beck Lane, Carlinghow, Batley. Works Chemist at L. B. Holliday & Co., Ltd. *Signed by :* H. H. Hodgson, D. E. Hathway, H. S. Greenwood.

O'Dea, Louis. Inter.B.Sc. (Lond.). Student, Special Chemistry B.Sc., London. British. Salesian Missionary College, Shrigley Park, Nr. Macclesfield. Science Teacher. *Signed by :* A. E. Gillam, F. S. Spring, T. H. H. Quibell.

(a)**Osman, William Anthony.** British. Bulls Green, Knebworth. Student. *Signed by :* H. V. A. Briscoe, A. A. Eldridge, H. J. Emeléus.

†**Preston, Richard St. John,** B.Sc.Hons. and M.Sc. (L'pool), F.R.I.C. British. 24, Boundaries Road, Feltham. Scientific Officer (Civil Service). *Signed by :* W. H. J. Vernon, J. G. Mitchell, F. Wormwell.

‡**Ridgion, James Maurice,** B.Sc. (Lond.), A.R.C.S. British. c/o The British Iron and Steel Research Association, Steel House, Tothill Street, S.W. 1. Research Officer (Iron and Steel Production). *Signed by :* A. H. Leckie, H. E. Blayden, H. L. Riley.

***Russell, Kenneth Edwin.** Natural Sciences Tripos Part II, Chemistry, Class 2, Division 1. British. Memorial Court, Clare College, Cambridge. Research Student. *Signed by :* F. S. Dainton, Donald Faulkner, R. G. W. Norrish.

Smith, Harry, B.Sc. and B.Pharm. (Lond.), A.R.I.C., Ph.C. British. c/o 85, Welford Crescent E., Trent Bridge, Nottingham. Assistant Lecturer in Pharmaceutical Chemistry at University College, Nottingham. *Signed by :* J. Masson Gulland, E. O'F. Walsh, D. O. Jordan.

†**Smith, Peter Robert William,** A.R.I.C. British. 28, Wayside, East Sheen, S.W. 14. Director of Research, Alumilite and Alzak, Ltd. *Signed by :* W. M. Cumming, M. M. J. Sutherland, I. V. Hopper.

†**Snowden, Arthur Henry,** Ph.C., A.R.I.C. British. Parkinsons, Ltd., Manufacturing Chemists, Burnley. Chief Chemist. *Signed by :* C. J. Eastland, N. R. Campbell, C. W. Maplethorpe.

(a)**Stewart, Malcolm Gordon,** Subsidiary B.Sc. (Physics), London. Studying Special Chemistry (Lond. Ext.). British. 25, Hambleton Square, Billingham. Assistant Chemist on the Staff of I.C.I., Ltd. *Signed by :* A. J. Prince, M. P. Applebey, H. E. Woosey.

†**Storrs, Francis Cecil,** B.Sc. and Dip. Bact. (Lond.), F.R.I.C. British. 20, Warwick Mansions, Cromwell Crescent, S.W. 5. Biochemical Research. *Signed by :* E. B. Anderson, C. K. Ingold, Henry Terrey.

†**Tomalin, Eric Frederick Joffre,** B.Sc.Hons. and Ph.D. (Lond.), A.M.I.Chem.E., A.R.I.C. Chemical Engineering Certificate of King's College, London. British. 79, Gloucester Road, Hampton. Captain R.A., in the Ministry of Supply, normally engaged as a refining technologist in the employ of the Royal Dutch Shell group. *Signed by :* L. G. F. Dolley, A. J. Allmand, A. F. B. Neal.

***Weinberger, Marcus Arthur,** B.Sc.Hons. (General, London, 1943. Chemistry, Manchester, 1943). German. 20, Upper Park Road, Salford, 7. Research Student in Physical Chemistry. *Signed by :* Colin Campbell, G. N. Burkhardt, P. H. Plesch.

†**Whalley, Roy,** B.Sc.Hons. (Manc.), A.R.I.C. British. 14, Hawthorn Avenue, Edenfield, Ramsbottom. Assistant Chemist, Clayton Aniline Co., Ltd. *Signed by :* C. G. Childs, D. S. Stephens, G. Spencer.

Williams, William Owen Montague, B.Sc.Hons., M.Sc. and Diploma of Education (Wales). British. 66, Eversley Road, Sketty, Swansea. Education Officer. Seconded for Service from Raine's Foundation School, London, E. 1. *Signed by :* J. E. Coates, R. H. Davies, L. E. Hinkel, E. E. Ayling.

‡**Wilson, Stanley,** B.Sc. (Lond.). British. Fuel Department, The University, Leeds, 2. Research Student. *Signed by :* H. J. Hodsman, R. E. Jones, R. Spence.

†**Young, John Roger,** B.Sc. (Lond.), A.R.I.C. British. 48, York Street, Canton, Cardiff. Works Chemist, Messrs. Ed. Cunvan & Co., Ltd. *Signed by :* J. Ormston, Marion Peeling, H. B. Watson.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

†**Chattopadhyay, Gauri Shankar,** B.Sc. Bengali. 27, Narikeldanga Main Road, Calcutta. Merchant and Consulting Chemist to the Scientific Supplies (Bengal) Co. *Signed by :* J. C. Bardhan.

Devadatta, Sandur Champion, D.Sc. (Edin.), Licentiate of the College of Physicians and Surgeons of Bombay. Indian. Wilson College, Bombay, 7. Professor of Chemistry. *Signed by :* R. G. Saraiya.

Felkin, Hugh Nigel. British. 42, Avenue de la Roseraie, Geneva. Student of Geneva University. *Signed by :* B. K. Blount.

‡**Goodfellow, Bruce Cowper.** Associate—former Canadian Institute of Chemistry. British. c/o Nuodex Products of Canada, Ltd., 34, Industrial Street, Leaside, Toronto, Ont. Sales Manager. *Signed by :* A. Stanley Cook.

***Riggs, Noel Victor,** B.Sc.Hons. (Adelaide), A.A.C.I. British. c/o Department of Chemistry, University of Western Australia, Nedlands, Western Australia. Lecturer in Chemistry. *Signed by :* D. E. White.

* Reduced annual subscription. † Three-body. (a) Junior Membership two-body.
‡ Two-body. (b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between February 15th and March 15th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Reactions of 4-nitro-2-naphthylamine. Part II. The mono- and di-nitration of 4-nitro-*p*-toluenesulphon-2-naphthalide and the preparation of 4 : 6-dinitro-1-naphthol." By H. H. Hodgson and D. E. Hathway.

"The mechanism of condensation of the anhydrides of mono- and di-substituted succinic acids with aromatic hydrocarbons under the conditions of the Friedel–Crafts reaction." By M. E. SABOOR.
"Phosphorus-containing esters. Part I." By H. MCCOMBIE, B. C. SAUNDERS, and G. J. STACEY.
"Search for new analgesics. I. Homologues of pethidine and related compounds." By E. WALTON and (in part) M. B. GREEN.
"Studies on phosphorylation. Part I. Dibenzyl chlorophosphonate as a phosphorylating agent." By F. R. ATHERTON, H. T. OPENSHAW, and A. R. TODD.
"Synthesis of piperidine derivatives. Part I." By W. BARR and J. W. COOK.
"The effect of drying on the vapour pressure of nitrogen tetroxide and the vapour density of nitrogen trioxide." By E. M. STODDART.
"Olefinic acids. Part I. The reactivity of α-bromocrotonic acid." By L. N. OWEN.
"The standard electrode potential of magnesium." By G. E. COATES.
"The potential and rate of solution of magnesium in deuterochloric acid." By G. E. COATES.
"Concentration polarisation in acid solutions." By G. E. COATES.
"Synthetical experiments bearing on the constitution of phthioic acid." By N. POLGAR and SIR ROBERT ROBINSON.
"Observations on the structure of the pyrethrolone ethers." By S. H. HARPER.
"Molecular rearrangements. Part V. A case of reversible α-diketone-lactone rearrangement." By A. SCHONBERG and ALY SINA.
"The constitution of the two lactones of *d*-glucosaccharic acid." By T. REICHSTEIN.
"Photo-chemical reactions in sunlight. Part X. (*a*) Reaction of ethylenes with phenanthraquinone and with benzil. (*b*) A new type of photo-chemical equilibrium." By A. SCHONBERG and A. MUSTAFA.
"*o*-Amino-ketones of the acetophenone and benzophenone types." By J. C. E. SIMPSON and (in part) C. M. ATKINSON, K. SCHOFIELD, and O. STEPHENSON.
"Cinnolines. Part III. The Richter reaction." By K. SCHOFIELD and J. C. E. SIMPSON.
"Cinnolines. Part IV. The preparation of 4-hydroxycinnolines, and the mechanism of cinnoline syntheses." By K. SCHOFIELD and J. C. E. SIMPSON.
"Quinamine. Part I." By T. A. HENRY, K. S. KIRBY, and G. E. SHAW.
"The preparation and chromoisomerism of 4 : 5-dinitro-1-naphthylamine, and some perimidines and perinones from 4-chloro- and 4-bromo-1 : 8-naphthylenediamine." By H. H. HODGSON and D. E. HATHWAY.
"An interpretation of the Sandmeyer reaction. Part VI. The influence of the chlorine ion on the decompositions of neutral *p*-nitrobenzenediazonium chloride and of *p*-nitrobenzenediazonium cobaltinitrite." By H. H. HODGSON and D. D. R. SIBBALD.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON

Thursday, May 17th, 1945, at 5 p.m.

Hugo Müller Lecture, on "The Past and Future of Crystal Chemistry," by Professor J. D. Bernal, M.A., F.R.S. To be held in the Lecture Theatre of the Royal Institution, Albemarle Street, W. 1. (By kind permission of the Managers.) The Scientific Meeting will be preceded by the adjourned Annual General Meeting to receive the audited Accounts for 1944.

OUTSIDE LONDON.

NEWCASTLE AND DURHAM.

Friday, May 25th, 1945, at 4.30 p.m.

Meeting for the reading of papers. To be held at King's College, Newcastle-on-Tyne.

SHEFFIELD.

Friday, May 11th, 1945, at 6 p.m.

Lecture on "Recent Developments in Petroleum Technology," by Dr. A. E. Dunstan. Joint meeting with the University Chemical Society and the South Yorkshire Section of the Royal Institute of Chemistry. To be held at the University, Western Bank.

Friday, May 25th, 1945, at 5.30 p.m.

Lecture on "The Place of the Resonance Concept in Chemistry," by Mr. R. P. Bell, M.A., F.R.S. To be held at the University, Western Bank.

SOUTH WALES.

At Cardiff.

Thursday, May 24th, 1945, at 7 p.m.

Hugo Müller Lecture, on "The Past and Future of Crystal Chemistry," by Professor J. D. Bernal, M.A., F.R.S. To be held at University College.

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PROCEEDINGS
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OFFICIAL ANNOUNCEMENTS

NOTICE OF MEETINGS OUTSIDE LONDON.

Fellows residing outside London who wish to receive notices of meetings held in areas other than those in which they reside should notify the General Secretary.

FELLOWSHIP.

The following 119 candidates were elected Fellows of the Chemical Society on March 15th, 1945:

Raymond Smith Asquith.
William Kenneth Bates.
Alan Rushton Battersby.
Norah Boothman.
Emmerson Bowes.
Daniel Robert John Boyd.
Arthur Stanley Briggs.
Wilfred Bromley.
George Campbell.
Philip Rufus Carter.
James Chalmers.
Donald Boynton Christian.
Herbert Joseph Cluley.
Harold Arthur Collinson.
Brian Edward Cross.
Harold Davenport.
Roger Edmond Deriaz.
George Brown Dodds.
William Bryan Emery.
Herbert Charles Evans.
Rowland Arthen Evans.
Donald Robert William Felstead.
Charles Beckham Featherstone.
John Ernest Gill.
Trevor Walworth Goodwin.
Alan Hadfield Gowenlock.
Derek Albert Green.
John Edwin Gregory.
Thomas Reid Hardie.
Frank Emery Harvey.
Robert Neville Haszeldine.
Christopher Stelling Hedley.
L. M. Hill.
Benjamin Woolf Hirsch.
George Edward Holbrook.
Ian George Holden.
Brian Laurie Hollingsworth.
Norman Limon Holmes.
Arthur Holt.
Stewart Angus Hood.
Keith Eric Howlett.
Leslie Polan Huggett.
Andrew Keith Jack.
Arthur Edwin James.
Francis George Jeffers.
Norman Charles Jabez Jeffery.
Robert Goodman Johnston.
Lynn Francis Jones.
Cornelius Keleti.
Robert William Kelsall.
James Ridley Keneford.
Thomas Kennedy.
Trevor John King.
Douglas Stuart Laidler.
Ernest George Evelyn Land.
Gregory John Lawson.
James Owen Lay.
George Lindley.
Bryan Alfred Jack Lister.
Sidney George Long.
Harry Vincent Lowther.
Lawrence Ernest Lyons.
Alan Macey.
Eric Frederick George McGill.
Robert Foster McLean.
Robert Henry Marriott.
William Marsden.
James Currie Marshall.
Alexander Lawson Martin.
Stanley Reginald William Martin.
Stephen Finney Mason.
Roland Gordon Minor.
James Milligan.
Fred Harding Montgomery.
Kenneth Alexander Murdoch.
James Henry Ottaway.
John Desmond Overton.
Victor E. Parke.
James Parkes.
John Payne.
Norman Sidney Payne.
Clifford Edward Payne-Roberts.
James Norman Fulton Phillips.
William Austin Pinnington.
Jack Plant.
Cyril Wolfe Pritchett.
John Hinton Read.
Ellis Gwynne Roberts.
James Topley Ramage.
Colin Robert Ricketts.
William Guy Roberts.
Harry Robinson.
Stanley Robinson.
Peter Ernest Sagrott.
Eric Shaw.
Henry Owen Smith.
Kenneth Cecil Smith.
Thomas David Smith.
William Keith Smith.
Arthur Frederick Edmund Snashall.
Thomas Hall Stothard.
Roy Stringfellow.
Reuben Sufrin.
Bertram George Swannell.
András László Tárnoky.
Donald Bryce Taylor.
George William Charles Taylor.
Maurice James Thornton.
Daniel Tonner.
Jacques Tréfouël.
George John Charles Vineall.
Sigmund Wang.
Lionel William Warner.
Charles Vernon Whittaker.
Ralph Williams.
Reginald Williams.
Geoffrey Willison.
Geoffrey Ronald Wootten.
Leonard Joseph Zatman.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, May 14th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

†**Barr, Joseph Robert,** B.Sc.Hons. and M.Sc. (L'pool), F.R.I.C. British. Bardena, 36, Knole Road, Dartford. Technical College Teacher. *Signed by:* A. E. Gillam, T. H. H. Quibell, F. S. Spring, Frank Wokes.

†**Barton-Wright, Eustace Cecil,** D.Sc. (Lond.), F.R.I.C. British. Owls Nest, Ox Lane, Harpenden. Biochemist, Cereals Research Station, St. Albans. *Signed by:* P. Halton, C. W. Herd, L. M. Mundy.

Beard, John Stewart, B.A.Hons. and B.Sc. (Oxon). British. 33, Rockside Drive, Henleaze, Bristol. Experimental Officer, Armament Research Department (Ministry of Supply). *Signed by :* B. Lambert, F. M. Brewer, Harry Irving.

Bedford, John Guy, B.Sc.Hons. and M.A. (Oxon). British. Old Steningford Hall, Ripon. Major, R.E. *Signed by :* Chas. S. Bedford, D. H. Everett, R. K. Callow, A. G. Ogston, R. C. G. Moggridge.

†**Boyd-Barrett, Herbert Stanislaus,** M.Sc. (N.U.I.), Ph.D. (Lond.), A.R.I.C. Irish. Ferndale, Victoria Road, Prestatyn. Senior Research Chemist with the Manchester Oil Refinery, Ltd. *Signed by :* Derrick Rowley, Isaac Goodman, M. Sulzbacher.

†**Charlton, Cyril Bradbury,** B.Sc. (Lond.). British. 2, Girton Gardens, Shirley, Croydon. Industrial Research Chemist. *Signed by :* J. Kenyon, J. W. Smith, A. Houston.

†**Dearnley, Frank,** M.Sc. (Lond.), A.R.I.C., A.M.C.T. British. 208, Todmorton Road, Burnley. Works Manager and Research Officer, North East Lancs. Co-operative Laundries Association, Ltd. *Signed by :* John K. Wood, R. Leslie Collett, H. J. T. Ellingham.

†**Diggory, James Bryan,** B.Sc.Hons. (L'pool). British. Thornleigh, Abbey Road, Llangollen. Research Chemist. *Signed by :* C. C. Moss, W. B. Whalley, E. Pinnington.

Edenborough, Richard Oakley Montague. 17 Years experience in the Pharmaceutical Chemical Industry. British. Ardoynne, Welwyn Heath. Production Manager to Bayer Products, Ltd. *Signed by :* H. Shapiro, H. Yellin, K. A. Smith.

***Everard, Kenneth Boothby.** Exhibition in Natural Science to Magdalen College, Oxford. British. Southlands, 6, Almsford Avenue, Harrogate. Student. *Signed by :* Ronald P. Bell, H. M. Powell, L. E. Sutton.

†**Furzey, Douglas George,** B.Sc.Tech. (Sheffield), A.R.I.C., A.M.I.Chem.E. British. 90, Westwick Crescent, Beauchief, Sheffield, 8. Chief Technical Assistant, Chemical Engineering Department of Newton, Chambers & Co., Ltd. *Signed by :* A. H. Dodd, T. S. Harrison, C. E. Spooner.

†**Gardner, John Baxter,** B.Sc. (Ph.D. (Lond.), A.R.C.S., D.I.C., A.R.I.C. Graduate Member of Institution of Chemical Engineers. British. 32, The Lawns, Hatch End. Research Chemist, British Oxygen Co., Ltd. *Signed by :* D. M. Newitt, M. T. Clark, H. Williams.

***Glenton, Henry David,** B.Sc.Hons. (Lond.). British. 30, Chaddesden Park Road, Derby. Shift Chemist. *Signed by :* N. T. Woombs, R. Souter, G. A. Freake.

***Green, Norman Michael.** British. Writtle Mead, Writtle, Chelmsford. Working for Honours Degree in Chemistry at Oxford University. *Signed by :* L. E. Sutton, K. W. Sykes, S. G. P. Plant.

Halcrow, Barbara Evelyn, B.Sc. and Ph.D. (Edin.). British. c/o Long, 94, Trowbridge Road, Bradford-on-Avon. Research Chemist. *Signed by :* Alan A. Goldberg, William Kelly, L. W. Salamé.

***Holden, Dennis,** M.Sc. (Manc.). British. Toc H, Upper Park Road, Victoria Park, Manchester, 14. I.C.I. Research Chemist. *Signed by :* A. E. Gillam, T. H. H. Quibell, H. D. Springall.

†**Holdsworth, Ernest Clifford,** B.Sc. and Ph.D. (Leeds), A.R.I.C., Leeds Dyeing Diploma, City and Guilds Diplomas in Dyeing and Textile Fibres. British. Westholme, 116, Manygates Lane, Sandal, Wakefield. Research Chemist. *Signed by :* L. C. MacMahon, S. Billbrough, E. B. Maxted.

***Huang, Hsing-Tsung,** B.Sc. (Hong Kong). Chinese. Oriel College, Oxford. Research Student, Dyson Perrins Laboratory, Oxford. *Signed by :* Rita H. Cornforth, Ronald P. Bell, D. Ll. Hammick.

***Johnson, Leslie Victor,** B.Sc.Hons. (Birm.). British. 490, Fox Hollies Road, Hall Green, Birmingham, 28. Research Student, Birmingham University. *Signed by :* L. L. Bircumshaw, M. Stacey, Stanley Peat.

‡**Larner, Erwin Ernest,** B.Sc. (Lond.), A.R.I.C. British. Wyngrove, Slad Road, Stroud. Chief Analytical and Research Chemist to S. G. Bailey & Co., Ltd. *Signed by :* H. V. A. Briscoe, Ernest R. S. Winter, Rowland H. Ellis.

Macey, Peter Edward, B.Sc. (Lond.). British. 31, Larkfield Avenue, Gillingham. Research Student, University College, Nottingham. *Signed by :* J. Masson Gulland, John C. Roberts, D. O. Jordan.

†**MacKay, Thomas,** B.Sc.Hons. (Edin.), A.R.I.C. British. 45, Brunstane Crescent, Joppa, Midlothian. Chemist, I.C.I. (Explosives Division). *Signed by :* E. G. V. Percival, James Kendall, Neil Campbell.

†**Marshall, Frederick Cecil Barron,** B.Sc. and Ph.D. (Lond.), D.I.C., F.R.I.C. English. 6, Riverside Crescent, Holymoorside. Senior Research Chemist, Low Temperature Carbonisation, Ltd. *Signed by :* L. A. Jordan, S. H. Bell, D. R. Duncan.

Mercy, Edward Leon Philip. British. c/o 57, Poplar Avenue, Edgbaston, Birmingham, 17. Chemist in Charge, A.I.D. Laboratory engaged in General Metallurgical Analysis. *Signed by :* L. L. Bircumshaw, Lilian Turton, L. F. Wiggins.

†**Mitchell, Gilbert Archibald Maldwyn,** B.Sc.Hons. (Glas.), A.R.I.C. British. 64, Beechwood Gardens, Calder Road, Bellshill. Metallurgist, Messrs. Rolls Royce, Ltd. *Signed by :* J. Milne, A. McLean, Stotherd Mitchell.

†**Mitchell, Robert Lyell,** B.Sc.Hons. (Edin.), Ph.D. (Aberd.). British. Macaulay Institute for Soil Research, Craigiebuckler. Research Chemist, Head of Spectrographic Department. *Signed by :* W. G. Ogg, D. N. McArthur, James Hendrick.

***Moore, Barry Philip,** B.Sc.Hons. (Sheffield). British. 81, Burnham Way, W. Ealing, W. 13. Research Student, Sheffield University. *Signed by :* Brynmor Jones, R. D. Haworth, Alex. H. Lamberton, Neville J. Cartwright, Neville Smith.

‡**Parts, Adolf Gustav,** Mag.Chem.Techn., Dr.Phil.Nat. (Tartu-Dorpat), Professor of Physical Chemistry at Tallinn Technical University of Estonia. Estonian. 23, Manor Way, Petts Wood. Senior Experimental Officer with Armament Research Department of Ministry of Supply. *Signed by :* C. E. H. Bawn, A. J. C. Nicholson, C. S. Bryant.

‡**Pautard, Frederick George Edward,** B.Sc.Hons. (Birm.). British. 1, County Grove, S.E. 5. Research Chemist to E. R. Watts & Sons. *Signed by :* M. Stacey, L. L. Bircumshaw, J. C. Tatlow.

†**Phillips, Arthur Braime,** B.Sc.Hons. (Leeds), A.R.I.C. British. 22, Yarm Street, Leeds, 11. Shop Manager (Development), Ministry of Supply. *Signed by :* A. K. Unsworth, H. J. Hodsman, A. L. Roberts.

†**Powell, Donald Waring,** M.Sc. (Lond.), A.R.I.C. British. 4, Boundary Road, Eastcote, Pinner. Chief Chemist and Director of Harper and Tunstall, Ltd. *Signed by :* Alex. Findlay, R. Leslie Collett, H. J. T. Ellingham.

†**Resuggan, John Charles Lovell,** A.R.I.C. British. c/o British Hydrological Corporation, High Path, Merton, S.W. 19. Chief Chemist to the British Hydrological Corporation. *Signed by :* F. A. Robinson, E. T. Borrows, J. Elks.

(a)**Robinson, Gordon Arthur Norgate.** British. 36, Burnham Road, Dartford. Metallurgical and Works Chemist, J. and E. Hall, Ltd. *Signed by :* G. H. Jeffery, D. M. Cowan, C. E. Payne Roberts.

***Skirrow, Geoffrey,** B.Sc.Hons. (Lond.). British. 1470, Leeds Road, Thornbury, Bradford. Research Student, Bradford Technical College. *Signed by :* G. E. Styan, H. I. Stonehill, R. M. Barrer.

†**Spooner, Edgar Clynton Ross,** M.Sc. and B.E. (Tasmania), D.Phil. (Oxon), M.I.Chem.E., A.R.I.C. British. c/o Sutcliffe, Speakman & Co., Ltd., Guest Street, Leigh. Chemical Engineering Consultant. *Signed by :* E. J. Bowen, C. N. Hinshelwood, Ronald P. Bell.

†**Stevenson, Walter Wilfred,** A.Met. (Sheffield), F.R.I.C., A.M.I.Chem.E., A.Inst.R. British. The United Steel Companies, Ltd., Central Research Department, Stocksbridge, near Sheffield. Chemical Engineer, The United Steel Companies, Ltd. *Signed by :* R. D. Haworth, D. Woodcock, Arthur W. Chapman, Brynmor Jones.

***Sugden, Geoffrey,** B.Sc.Hons. (Sheffield). British. Rosemount, Feltham Hill Road, Ashford. Assistant Chemist, Anglo-Iranian Oil Co., Ltd. *Signed by :* Brynmor Jones, R. D. Haworth, E. Gertrude Turner.

Threlfall, Cedric James, B.Sc. (Lond.). British. 54, Crosby Avenue, Scunthorpe. Research Student, University College, Nottingham. *Signed by :* J. Masson Gulland, John C. Roberts, D. O. Jordan.

(b)**Valentine, Robert Burns,** B.Sc.Hons. (Edin.). British. 1, Lower Granton Road, Trinity, Edinburgh, 5. Plant Superintendent (Chemist), I.C.I. (Explosives), Ltd. *Signed by :* E. G. V. Percival, Tom Cottrell, B. E. Nicholson.

‡**Welch, Archibald Parker,** Member of the Institution of Mechanical Engineers, Fellow of the Institution of Industrial Administration, Fellow of the Physical Society, Member of the Institution of Production Engineers, Fellow of the Royal Microscopical Society, Bernard Medallist, 1933–34, Fellow of the Institute of Arbitrators. English. 2, Clarendon House, 6, Strathearn Place, Hyde Park Square, W. 2. Consulting Engineer. *Signed by :* T. W. Jones, D. W. Kent-Jones, A. J. Amos.

Wilcher, Bryan Albert Charles, B.Sc. (Lond.). British. 91, Londonderry Road, Stockton-on-Tees. Assistant Chemist. *Signed by :* J. R. Partington, V. A. Petrow, H. D. K. Drew, C. W. Scaife.

***Wilson, Edward James,** B.Sc.Hons. (Dun.). English. 1, St. Lawrence's Terrace, Warkworth, Morpeth. Lieutenant in R. Signals now in M.E.F. *Signed by :* G. H. Christie, C. W. Gibby, P. L. Robinson.

†**Winterbottom, Arthur Baker,** M.Sc.Tech. (Manc.), B.Sc.Eng. (Lond.), F.R.I.C. British. Department of Metallurgy, The University, Manchester, 13. Lecturer in Electrometallurgy. *Signed by :* P. T. Gilbert, Ulick R. Evans, W. H. J. Vernon.

†**Woiwod, Albert John,** B.Sc. (Lond.), A.R.I.C. British. c/o Wellcome Physiological Research Laboratories, Beckenham. Research Chemist. *Signed by :* C. G. Anderson, S. Wilkinson, W. Mark Duffin.

Wynne, Reginald George. Eight years in Laboratory of H. Thompson, Esq., Consulting and Analytical Chemist. British. 61, Hymers Avenue, Hull. Technical Officer, General Staff. *Signed by :* Harry Thompson, Edward Chapman, J. Harley-Mason.

Yardley, John Terence, B.Sc.Hons. (Lond.), A.R.I.C. British. Crestwell, Hendy Road, Mold. Analytical Chemist, Chemical Inspection Department, Ministry of Supply. *Signed by :* T. Harrington, J. Skull, T. S. Smith.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

***Krishnan, Vattarmadom Rama,** B.Sc.Hons (Annamalai). Indian. Vattar Madhom, Kothakurssi, Panamanna P.O., Ottapalam, S. Malabar, India. Demonstrator and resident Tutor in Chemistry, Madras Christian College, Tambaram, and Research Scholar, Madras University. *Signed by :* S. V. Anantakrishnan.

McKern, Howard Hamlet Gordon. Diploma in Chemistry of the Sydney Technical College, A.A.C.I. British. Cadonia, 14, Orwell Street, Potts Point, Sydney, N.S.W. Analytical and Industrial Chemist, Meggitt, Ltd., Macquarie Street, Parramatta, N.S.W. *Signed by :* F. R. Morrison, R. W. Challinor.

McKerns, Kenneth Wilshire, B.Sc. (Alberta), Member Canadian Institute of Chemistry. English. 1 C.G.R.U., C.A.O. Lieut. R.C.A. *Signed by :* A. C. Chibnall.

***Natarajan, Mangalam Ramaswamy,** B.Sc.Hons. (Annamalai). Indian. Annamalainagar, South India. Research Scholar in Chemistry at Annamalai University. *Signed by :* S. V. Anantakrishnan.

Neuhaus, John William George, Diploma in Chemistry, Sydney Technical College. British. 190, Old Prospect Road, Wentworthville, N.S.W. Industrial Chemist, Meggitt, Ltd., Parramatta, N.S.W. *Signed by :* F. R. Morrison, R. W. Challinor.

†**Sadgopal,** M.Sc.Tech. and D.Sc. (Benares), F.R.I.C. Hindu (Indian). 10, Bank Road, Allahabad. Managing Partner and Chief Chemist, the Hindusthan Aromatics Co., Naini-Allahabad. *Signed by :* K. A. Hamied.

‡**Sapiro, Marcus Lazarus,** M.Sc. and Ph.D. (S. Africa). Union National. P.O. Box 163, Bloemfontein, S. Africa. On Active Service. Peace-time occupation, Assistant in Chemistry (University Teaching Staff), University College of the Orange Free State, Bloemfontein. *Signed by :* H. A. E. Mackenzie.

* Reduced annual subscription. † Three-body. (a) Junior Membership two-body.
‡ Two-body. (b) Junior Membership three-body.

PAPERS RECEIVED.

List of papers received between March 15th and April 9th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Polycyclic aromatic hydrocarbons. Part XXXI. Some nitrogenous analogues of chrysene, pyrene, and 3 : 4-benzphenanthrene." By J. W. Cook and W. H. S. Thomson.

"Synthetic analogues of progesterone." By W. C. J. Ross.

"Synthetic analogues of corticosterone." By W. C. J. Ross.

"The system : lead chloride–water, 15° to 35° C." By T. P. Goulden and L. M. Hill.

"The stereochemistry of hydroxyproline." By A. NEUBERGER.
"The kinetics of anionotropic rearrangement. Part III. Substituent effects in the oxotropic formation of the vinylacetylene system." By E. A. BRAUDE and E. R. H. JONES.
"The kinetics of anionotropic rearrangement. Part IV. The theory of substituent effects." By E. A. BRAUDE.
"The kinetics of anionotropic rearrangement. Part V. Substituent effects in the oxotropic formation of the butadiene system. A comparison of the electron attracting properties of the ethylenic and acetylenic bonds." By E. A. Braude and E. R. H. Jones.
"The effect of pressure and concentration on the solubility and hydrolysis of chlorine." By H. M. HAYNES.
"The action of methyl alcohol on phenol in the presence of alumina. Formation of anisole, alkylated phenols and hexamethylbenzene." By N. M. CULLINANE and S. J. CHARD.
"Quinamine. Part II. Constitution." By K. S. Kirby.
"Leptospermone. Part II." By L. H. BRIGGS, C. H. HASSALL, and W. F. SHORT.
"Naphtha-1' : 2' : 4 : 5-selenazoles." By E. B. KNOTT.
"Chloranil dehydrogenation of tetrahydrocarbazoles." By (MISS) B. M. BARCLAY and N. CAMPBELL.
"Studies in light absorption. Part I. *p*-Benzoquinones." By E. A. BRAUDE.
"Studies in light absorption. Part II. 2 : 4-Dinitrophenylhydrazones." By E. A. BRAUDE and E. R. H. JONES.
"The action of acids on *N*-bromoacetanilides." By G. I. ISRAEL, (MISS) A. W. N. TUCK, and F. G. SOPER.
"The course of autoxidation reactions in polyisoprenes and allied compounds. Part IX. The primary thermal oxidation product of ethyl linoleate." By J. L. BOLLAND and H. P. KOCH.

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

OUTSIDE LONDON.

NEWCASTLE AND DURHAM.

Friday, June 8th, 1945 *at* 4.30 *p.m.*

Meeting for the reading of papers. To be held in the Chemistry Lecture Theatre, King's College, Newcastle-on-Tyne.

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PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at the Royal Institution, Albemarle Street, W.1, on Thursday, May 17th, 1945, at 5 p.m.

PROFESSOR J. W. COOK, D.Sc., F.R.S., Vice-President, was in the Chair, and welcomed the visitors present.

MINUTES.

The minutes of the Scientific Meeting of March 15th, which had been circulated, were taken as read and were confirmed and signed.

ACCOUNTS FOR 1944.

The Annual General Meeting, adjourned from April 19th, was held and the Statement of Accounts for 1944 was adopted.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Chemical Society: G. R. Hilldrith, Daniel M. Brown, Hugh S. Forrest, John M. Bremner, Steffi Guttmann, Derek A. Green, Geoffrey R. Wootten, William J. Kramers, A. J. Crockatt, Edmund F. Maillard, Maurice H. Pearson, C. E. Payne-Roberts, J. W. H. Oldham, A. D. E. Pullin, Walter C. Coppins, A. L. Ford.

HUGO MÜLLER LECTURE.

After a brief introduction, the Chairman called on Professor J. D. Bernal to deliver his **Hugo Müller Lecture**, entitled: "The Past and Future of Crystal Chemistry."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by PROFESSOR J. M. ROBERTSON, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Harold Eben Carr	1921	March 21st, 1945.
James Kear Colwell	1890	April 26th, 1945.
Frank Eustace King	1902	March 17th, 1945.
Thomas Joseph Nolan	1913	March 12th, 1945.
Alan Percy Platt	1944	March 20th, 1945.
Donald Vernon Tilston	1943	April 1st, 1945.

CONGRATULATIONS.

The Council have sent congratulations to Professor W. P. Wynne, who completed 60 years of Fellowship on May 7th, and to the following, who will complete 50 years of Fellowship on May 18th:

Harold A. Auden.
Lancelot A. Borradaile.
John McGlashan.
Robert C. Marchant.
Robert S. Morrell.
George E. Shaw.
Frederick G. Trehärne.

and to the following on their election as Fellows of the Royal Society on March 14th:

Professor J. M. Gulland.
Professor H. D. Kay.
Professor J. M. Robertson.
Professor F. M. Rowe.

GENERAL SECRETARY.

Dr. D. C. Martin has been appointed by the Council to succeed Mr. S. E. Carr as General Secretary.

FRENCH CHEMICAL SOCIETY.

A telegram and letter of thanks have been received from Professor M. Tiffeneau (President of the French Chemical Society) for greetings sent from Fellows at the Annual General Meeting on April 19th.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. C. Buckmaster for presenting publications to the Society, and to Mr. Arnold Stevenson for presenting publications and a reproduction of a water colour of A. von Humboldt.

RESEARCH GRANTS.

A grant of £12 has been made to Mr. J. C. Bevington (Queen's College, Cambridge) for a research on "The Polymerisation of Acetaldehyde."

HONORARY FELLOWS.

The following have been elected Honorary Fellows of the Society by the Council:

Sir Henry H. Dale, O.M., G.B.E., P.R.S.
Professor V. M. Goldschmidt.
Professor Frederick Joliot.
Professor Harold C. Urey.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, June 18th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

(b)**Arnold, Peter William,** B.Sc. (Wales). British. Cefn, Beaumaris, Anglesey. Officer under the Land Fertility Scheme in the West Midland Province. *Signed by:* W. Rogie Angus, G. T. Jones, E. D. Hughes.

(b)**Boyle, Archibald Raymond,** B.Sc.Hons. and Ph.D. (Birm.). British. 10, Cremorne Road, Four Oaks, Sutton Coldfield, nr. Birmingham. Research Physical Chemist, Chemistry Department, The University, Edgbaston, Birmingham, 15. *Signed by:* W. N. Haworth, S. R. Carter, M. Stacey.

‡**Cahill, Terence John,** A.R.I.C. British. 10, Ealing Park Mansions, South Ealing Road, W. 5. Analyst. *Signed by:* John Floren, C. W. Chater, G. H. Green.

(a)**Cross, Arthur Henry John,** B.Sc. (Lond.). British. 29, Torriano Avenue, Kentish Town, N.W. 5. Analytical Chemist, The British Drug Houses, Ltd. *Signed by:* E. L. Cooper, K. J. Verrill, S. G. Long.

Crum, Jean Margaret, M.A. and D.Phil. (Oxon.). British. Wilmer House, Farnham. Research Chemist, National Institute for Medical Research, Hampstead, N.W. 3. *Signed by:* Harold King, James Walker, Thomas S. Work.

(b)**Dunnett, Peter Sidney,** Inter.B.Sc. British. 137, Ridgeway Drive, Bromley. Chemist to Messrs. Samuel Jones & Co., Ltd. Industrial research on Adhesives, and allied products. *Signed by:* G. H. Jeffrey, Arthur I. Vogel, C. E. Payne Roberts.

†**Edge, James Arthur,** B.Sc. (Lond.), A.R.C.S., A.R.I.C., Diploma of Education (Leeds). British. 8, Bowman Avenue, Buttershaw, Bradford. Senior Science Master, Grange High School, Bradford. Part-time Lecturer in Physics and Chemistry, Technical College, Bradford. *Signed by:* R. M. Barrer, H. I. Stonehill, G. E. Styan.

‡**Fortune,** John Brook, M.Sc.Met. and B.Sc.Eng. (Wales), M.I.Mech.E., M.I.S.I. British. Solway Estate, Maryport. Works Manager, Hornflowa Ltd., Makers of Plastics Raw Materials, Powders and Mouldings. *Signed by:* Alex. W. McLaren, R. Neiger, A. B. Coles.

†**Gomberg, Heiem,** B.Sc. (Lond.), A.R.C.S., A.R.I.C. British. 45, Elliott Road, Hendon, N.W. 4. Research Chemist at Paint Research Station. *Signed by:* S. H. Bell, D. R. Duncan, J. H. Nicholls.

Hatch, James William. Qualified Druggest. British. Hillsborough, Co. Down, Northern Ireland. Representative in Ireland for London firm of Manufacturing Chemists. *Signed by:* H. Graham, A. W. Stewart, T. E. Ellison.

‡**Herzberg, Franz Moritz,** Dr.Ing. (Freiberg and Dresden, Saxony, Academy of Mining). Technically Stateless, formerly German. Solway Estate, Maryport. Managing Director, Hornflowa Ltd., Makers of Plastics Raw Materials, Powders and Mouldings. *Signed by:* Alex W. McLaren, R. Neiger, A. B. Coles.

‡**Hornby, Edward Stuart,** B.Sc. (Lond.). British. 9, Cissbury Ring North, Woodside Park, N. 12. Chemist. *Signed by:* H. G. Poole, C. K. Ingold, Henry Terrey.

***Jenkins, Eric Neil,** B.Sc.Hons. (Wales). British. 28, Broomsleigh Street, West Hampstead, N.W. 6. Organic research assistant to Messrs. Milton Antiseptic Ltd. *Signed by:* K. O. Michaelis, C. W. Davies, Kurt Heller.

‡**Jones, Francis Bernard,** B.Sc. (Lond.). British. 55, The Chase, Wallington, Works Chemist at British Drug Houses, Ltd. *Signed by:* Kenneth J. Verrill, S. G. Long, E. L. Cooper.

Linnett, John Wilfred, M.A. and D.Phil. (Oxon.). British. The Queen's College, Oxford. University Demonstrator in Chemistry and Fellow of The Queen's College, Oxford. *Signed by:* Ronald P. Bell, B. Lambert, D. Ll. Hammick.

(b)**Loneragan, Ronald James,** Inter.B.Sc. (Lond.). British. 3, Somerset Road, Edmonton, N. 18. Clerical Assistant (C.D.), Town Clerk's Office, Town Hall, Wembley, intending to return to Plastics Laboratory. *Signed by:* R. W. West, W. Gerrard, D. H. Richardson.

(b)**Loveridge, Brian Arthur,** B.A.Hons. (Harvard). One year spent in polarographic research. British. The Technical Staff Mess, Royal Aircraft Establishment, South Farnborough. Employed by the Royal Aircraft Establishment, M.A.P., on electro-chemical research. *Signed by :* W. F. K. Wynne-Jones, J. A. Wrenn, G. A. Earwicker.

†**Matthews, John Bryant,** B.Sc. and Ph.D. (L'pool), 8 years Post-Graduate research experience. British. 18, The Groves, Chester. Research Chemist. *Signed by :* J. Stewart Cook, W. C. Peck, F. M. Wright.

†**O'Brien, Eric Ackerley,** B.Sc.Tech. (Manc.), F.R.I.C. British. 20, Egerton Road, Monton, Eccles. Cereal Chemist. *Signed by :* W. P. Ford, H. C. Freeman, D. W. Kent-Jones.

Pianka, Max. Polish. 106, Belsize Road, N.W. 6. Laboratory Chemist, Organic Research Laboratories, Dufay-Chromex. *Signed by :* R. W. West, D. H. Richardson, W. Gerrard.

(b)**Roberts, Evan,** B.Sc.Hons. (Wales). British. 11, County Road, Penygroes. Research. *Signed by :* E. D. Hughes, W. Rogie Angus, Gwilym T. Jones.

***Russell, Keith William.** London University. Matriculation, Higher School Certificate with Intermediate Exemption, London University Subsidiary Radio-Physics. British. Connaught Hall, Wessex Lane, Swaythling, Southampton. Student studying for B.Sc. Special Chemistry at University College, Southampton. *Signed by :* S. H. Harper, N. K. Adam, K. R. Webb.

(b)**Topper, Harry Hyman,** B.Sc. (Lond.), A.R.C.S. British. 15, Dunsany Road, W. 14. Research Chemist in Varnish Laboratory at Messrs. Jenson & Nicholson, Ltd. (Robbialac Company). *Signed by :* H. V. A. Briscoe, A. A. Eldridge, H. J. Emeléus.

†**Walton, Arthur,** M.Sc. (Manc.), F.R.I.C. British. 92, St. James' Road, Blackburn. Head of Science Department, Blackburn Technical College. *Signed by :* J. E. Wynfield Rhodes, M. A. Phillips, Eric S. Gyngell.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Klein, Max Berthold,** M.D. (Leipzig). British. c/o Grindlay & Co., Ltd., Mint Road, Bombay. Major, Indian Medical Service. *Signed by :* S. S. Bhatnagar.

‡**Tauch, Ernest John,** B.S. (Michigan State College). U.S.A. 3092, Broadway, Cleveland, 15. Research Supervisor, Grasselli Chemical Department, E.I. du Pont de Nemours & Co. *Signed by :* E. K. Bolton.

* Reduced annual subscription. † Three-body. (a) Junior Membership two-body.
‡ Two-body. (b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between April 9th and May 17th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The constituents of expressed West Indian lime oil." By A. G. Caldwell and E. R. H. Jones.

"The alkaloids of *Gelsemium sempervirens*. Part I." By W. G. C. Forsyth, S. F. Marrian, and T. S. Stevens.

"The effect of molecular environment on the absorption spectra of organic compounds in solution. Part IV. Dienones and dienals." By L. K. Evans and A. E. Gillam.

"A note on some derivatives of eugenol and *cis*- and *trans-iso*eugenol." By T. F. West.

"Heat deactivation of a palladium catalyst." By D. T. Gibson.

"The synthesis of 3-methyl*iso*quinolines. Part I." By G. R. Clemo and J. H. Turnbull.

"An improved glass electrode cell assembly." By G. E. Coates.

"The reaction of acrylonitrile with aliphatic alcohols." By J. H. MacGregor and C. Pugh.

"The synthesis of substances related to the sterols. Part XLIV. *dl-cis*-Equilenin." By A. J. Birch, (Mrs.) R. Jaeger, and Sir Robert Robinson.

"The preferential reduction of nitro-groups in polynitro-compounds. Part II. Picric acid and 3 : 5-dinitro-*o*-cresol. An almost quantitative preparation of picramic acid." By H. H. Hodgson and E. R. Ward.

"The kinetics of halogen addition to unsaturated compounds. Part VII. Bromine addition in CCl_4, PhCl, and $CHCl_3$." By P. B. D. de la Mare, R. A. Scott, and P. W. Robertson.

"Synthesis of amino-sulphones." By A. A. Goldberg and (in part) D. M. Besly.

"Structure of benzene. Part XI. Introductory consideration of the spectral properties of the vibrations of some deuterated benzenes." By C. R. Bailey, C. K. Ingold, H. G. Poole, and C. L. Wilson.

"Structure of benzene. Part XII. Preparation of deuterated benzenes by the Grignard reaction. Mono- and 1 : 4-di-deuterobenzene." By L. H. P. Weldon and C. L. Wilson.

"Structure of benzene. Part XIII. Hydrogen exchange reactions with benzene derivatives. Preparation of 1 : 3 : 5-tri-, 1 : 2 : 4 : 5-tetra-, and penta-deuterobenzene." By A. P. Best and C. L. Wilson.

"Structure of benzene. Part XIV. Limitations of the decarboxylation method for preparing partly deuterated benzenes." By L. H. P. Weldon and C. L. Wilson.

"Structure of benzene. Part XV. Experimental methods for Raman spectroscopy, including a micro-method. Revision of the Raman spectrum of hexadeuterobenzene." By H. G. POOLE.

"Structure of benzene. Part XVI. Experimental methods for infra-red spectroscopy. Note on the infra-red spectrum of hexadeuterobenzene." By C. R. BAILEY, S. C. CARSON, and C. K. INGOLD.

"Structure of benzene. Part XVII. The Raman and infra-red spectra of 1 : 3 : 5-trideuterobenzene. Description and analysis." By C. R. BAILEY, J. B. HALE, (MISS) N. HERZFELD, C. K. INGOLD, A. H. LECKIE, and H. G. POOLE.

"Structure of benzene. Part XVIII. The Raman spectra of 1 : 4-dideuterobenzene and 1 : 2 : 4 : 5-tetradeuterobenzene. Description and analysis." By (MISS) N. HERZFELD, J. W. HOBDEN, C. K. INGOLD, and H. G. POOLE.

"Structure of benzene. Part XIX. The infra-red spectra of 1 : 4-dideuterobenzene and 1 : 2 : 4 : 5-tetradeuterobenzene. Description and analysis." By C. R. BAILEY, S. C. CARSON, R. R. GORDON, and C. K. INGOLD.

"Structure of benzene. Part XX. The Raman and infra-red spectra of monodeuterobenzene. Description and analysis." By C. R. BAILEY, R. R. GORDON, J. B. HALE, (MISS) N. HERZFELD, C. K. INGOLD, and H. G. POOLE.

"Structure of benzene. Part XXI. The inactive fundamental frequencies of benzene, hexadeuterobenzene and the partly deuterated benzenes." By (MISS) N. HERZFELD, C. K. INGOLD, and H. G. POOLE.

"The metal-catalysed reaction between acetylene and hydrogen. Part V. Reaction over palladium, iron, and some other catalysts." By J. SHERIDAN.

"The quantitative estimation of xylose." By L. J. BREDDY and J. K. N. JONES.

"Chemical conversion of β-carotene into vitamin A." By R. F. HUNTER and N. E. WILLIAMS.

"The system sodium carbonate–sodium borate–water at 35°." By L. M. HILL.

"The reaction between 1-thiolbenzthiazole and trichlorotriethylamine." By R. F. REYNOLDS.

"The nitration of 3-acetamidoacetophenone." By W. A. WATERS.

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PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows :

	Elected.	Died.
Charles Edwin Corfield	1917	April 28th, 1945.
Viscount Exmouth	1923	June 7th, 1945.
Sir Martin Onslow Forster	1892	May 23rd, 1945.
Archibald Walker	1881	June 10th, 1945.

220TH ANNIVERSARY OF THE ACADEMY OF SCIENCES OF THE U.S.S.R.

The following letter was received from the Ambassador of the U.S.S.R. in Great Britain :

19*th May*, 1945.

DEAR MR. PRESIDENT,

From June 15th to 28th the 220th Anniversary of the Academy of Sciences of the Union of Soviet Socialist Republics will be celebrated in Moscow and in Leningrad.

The Academy of Sciences of the U.S.S.R. have requested me to inform you of this and to express their hope that The Royal Chemical Society will take part in the celebration of this Jubilee by sending their Representative to the Jubilee festivities.

It will be greatly appreciated by the Academy of Sciences of the U.S.S.R. if you will be good enough to let them know as early as possible the full name, scientific degrees, official capacity and the private address of your Representative to enable the Academy to send their invitation to him.

Yours sincerely,
(*Sgd.*) F. GOUSEV,
Ambassador of the U.S.S.R. in Great Britain.

The Council are glad to report that Professor F. G. Donnan agreed to represent the Society at the Celebrations and to present the following Address on behalf of the Society :—

THE CHEMICAL SOCIETY
TO THE
ACADEMY OF SCIENCES OF THE UNION OF SOVIET SOCIALIST REPUBLICS.

We, the President, Council and Fellows of the Chemical Society learn with the greatest pleasure that the Academy of Sciences of the Union of Soviet Socialist Republics will celebrate in June 1945 the 220th Anniversary of its Foundation, and we offer our warmest congratulations on this auspicious occasion.

Many scientists of world-wide reputation have been associated with your Academy ever since the early days when Lomonosov won imperishable renown by his remarkable discoveries in physics and chemistry.

In more recent years the election of Semenov and Zelinsky, two distinguished members of the Academy, as Honorary Fellows of the Chemical Society, has signalized our great appreciation of the services the Academy has rendered to the science of Chemistry.

We recognise the very high place which the Academy occupies in the fully organized plan of national development in the Union of Soviet Socialist Republics and the splendid contributions which are now being made, under its direction, to science and to civilisation.

In the period of reconstruction and peaceful development which is now before us we hail with immense satisfaction the part which the members of your Academy, enhancing their fame, continue to play in the progress and development of Science.

Signed on behalf of the Chemical Society this Twelfth day of June One thousand Nine Hundred and Forty-five.

(*Signed*) W. N. HAWORTH. *President.*
F. P. DUNN. *Treasurer.*
G. M. BENNETT. } *Honorary*
WM. WARDLAW. } *Secretaries.*

CONGRATULATIONS.

The congratulations of the Council have been sent to Professor Robert Wallace, who completed 60 years of Fellowship on June 4th, 1945.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Messrs. D. I. Duveen, W. C. D. Rosney, and D. G. Wilkinson for gifts of publications of the Society.

HONORARY SECRETARY.

The Council have accepted with regret the resignation of Professor H. V. A. Briscoe as Honorary Secretary, and have appointed Dr. J. L. Simonsen, F.R.S., to this Office.

RESEARCH GRANTS.

The Council have made the following grants from the Research Fund:

	£	s.	d.
Plant products of New Zealand (L. H. Briggs)	20	0	0
Photochemistry of parasantonide (S. Mitchell)	10	0	0
Molecular association in the esters of carbamic and thiocarbamic acids (N. G. Reynolds)	6	0	0
Synthesis of some phenylene carbazoles (A. R. Somerville)	5	0	0

LOCAL REPRESENTATIVE FOR EXETER.

Dr. S. J. Gregg has accepted the invitation of the Council to act as Local Representative for Exeter.

COMMITTEES.

The Council have conveyed their thanks to the retiring members of Committees for the services they have rendered to the Society.

The following Committees have been appointed for 1945—1946:

Finance and General Purposes Committee.

F. H. Carr, J. W. Cook, A. E. Dunstan, Sir Alfred Egerton, G. I. Finch, I. M. Heilbron, W. H. Mills, Sir Robert Pickard, together with the Officers, the Chairman of the Publication Committee and the representative of the Joint Library Committee on the Council of the Chemical Society. The President as Chairman, Treasurer as Vice-Chairman, and the General Secretary as Secretary.

Publication Committee.

C. N. Hinshelwood, as Chairman, N. K. Adam, M. P. Applebey, W. Baker, E. J. Bowen, J. E. Coates, J. W. Cook, E. G. Cox, H. J. Emeléus, C. R. Harington, T. A. Henry, D. H. Hey, E. L. Hirst, C. K. Ingold, D. J. G. Ives, E. R. H. Jones, J. Kenyon, F. E. King, F. G. Mann, H. W. Melville, T. S. Moore, R. G. W. Norrish, M. Polanyi, H. Raistrick, B. C. Saunders, J. L. Simonsen, J. C. Smith, H. W. Thompson, together with the Officers, and the Editor as Secretary.

Research Fund Committee.

N. K. Adam, A. J. Allmand, J. E. Coates, J. W. Cook, H. McCombie, J. Kenyon, Sir Robert Robinson, J. L. Simonsen, A. R. Todd, together with the Officers. The President as Chairman, and the General Secretary as Secretary.

Publications Exchange Committee.

A. J. Allmand, H. Bassett, J. Kenyon, G. A. R. Kon, together with T. A. Henry (ex-officio representative of the Joint Library Committee on the Council) and the Officers, with the Librarian as Secretary.

GENERAL SECRETARYSHIP.

Dr. David C. Martin, who succeeds Mr. S. E. Carr as General Secretary, will take up his duties as from August 1st, 1945.

LIBRARY.

The hours during which the Library is open have recently been extended, and are now as follows:

Monday to Friday	10 a.m. to 6 p.m.
Saturday	10 a.m. to 5 p.m.

The Library will be closed for revision and cleaning from August 6th to August 18th inclusive.

FELLOWSHIP.

The following 112 candidates were elected Fellows of the Chemical Society on May 17th, 1945:

Denis Adlington.
Leslie Airey.
John William Albans.
Joseph Robert Barr.
Eustace Cecil Barton-Wright.
John Stewart Beard.
John Guy Bedford.
Herbert Stanislaus Boyd-Barrett.
Clarence Fairbank Buckley.
John Glyn Burgan.
Robert George Carson.
Wilfred Eric Chapman.
Cyril Bradbury Charlton.
Gauri Shankar Chattopadhyay.
Herbert Edmund Clarke.
Hugh Wilson Davidson
Frank Dearnley.
Sandur Champion Devadatta.
James Bryan Diggory.
Archibald Walter Eric Downer.
Richard Oakley Montague Edenborough.
Kenneth Boothby Everard.
Allan James Faulks.
Hugh Nigel Felkin.
Eric Sidney John Fry.
Douglas George Furzey.
Gordon Neville Gadsby.
John Baxter Gardner.
Munir Gindy.
Henry David Glenton.
Bruce Cowper Goodfellow.
Norman Michael Green.
Barbara Evelyn Halcrow.
Peter Hey.
Ronald Hicks.
George Mason Hills.
Dennis Holden.
Ernest Clifford Holdsworth.
James Ronald Holker.
Hsing-Tsung Huang.
Robert Isherwood.
Frank Woolgar Jarvis.
Leslie Victor Johnson.
Frederick Victor Jones.
James Dillwyn Joseph.
Albert Edward Kaye.
Austin William Kenchington.
Kenneth Walter Lloyd Kenchington.
Carl Aloysius Kerr.
Vattarmadom Rama Krishnan.
Erwin Ernest Larner.
Albert Edward Laxton.
Oscar Martin Lee.
Derek Drury Lord.
John Waring Lucas.
Peter Edward Macey.
Andrew Hamilton McIntosh.
Thomas MacKay.
Howard Hamlet Gordon McKern.
Kenneth Wilshire McKerns.
Frederick Cecil Barron Marshall.
Leslie Edward Martin.
Edward Leon Philip Mercy.
Gilbert Archibald Maldwyn Mitchell.
Robert Lyell Mitchell.
Robert George Monk.
Barry Philip Moore.
Douglas Sydney Morris.
Leslie Alexander Munro.
Arthur Basil Naish.
Mangalam Ramaswamy Natarajan.
Francis Charles Neale.
John William George Neuhaus.
Charles Roy Norton.
Louis O'Dea.
William Anthony Osman.
Adolf Gustav Parts.
Frederick George Edward Pautard.
Arthur Braime Phillips.
Donald Waring Powell.
Richard St. John Preston.
John Charles Lovell Resuggan.
James Maurice Ridgion.
Noel Victor Riggs.
Gordon Arthur Norgate Robinson.
Kenneth Edwin Russell.
Sadgopal.
Marcus Lazarus Sapiro.
Geoffrey Skirrow.
Harry Smith.
Peter Robert William Smith.
Arthur Henry Snowden.
Edgar Clynton Ross Spooner.
Walter Wilfred Stevenson.
Malcolm Gordon Stewart.
Francis Cecil Storrs.
Geoffrey Sugden.
Eric Frederick Joffre Tomalin.
Cedric James Threlfall.
Robert Burns Valentine.
Marcus Arthur Weinberger.
Archibald Parker Welch.
Roy Whalley.
Bryan Albert Charles Wilcher.
William Owen Montague Williams.
Edward James Wilson.
Stanley Wilson.
Arthur Baker Winterbottom.
Albert John Woiwod.
Reginald George Wynne.
John Terence Yardley.
John Roger Young.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than Monday, July 30th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

†**Adams, John Thomas,** A.R.I.C., Assoc.M.C.T., over 25 years Chemical Laboratory and Research Experience. British. 41, Orford Road, Warrington, Research Chemist, I.C.I. (General Chemicals), Ltd. *Signed by :* L. J. Burrage, L. A. Haddock, O. D. Mooney.

***Anderson, William.** British. 932, Govan Road, Govan, Glasgow, S.W. 1. Student in Chemistry (Hons.) at the University of Glasgow. Final year. *Signed by :* J. W. Cook, S. Horwood Tucker, John A. Mair.

***Barlow, Audrey,** B.Sc.Hons. (Manc.). British. 6, Granary Lane, Worsley, Manchester. Research Student. *Signed by :* F. S. Spring, A. E. Gillam, A. H. Gowenlock.

***Bell, Ronald.** British. Tynedale, Front Street, Prudhoe-on-Tyne. Student, Final year for Honours B.Sc. in Chemistry, King's College, Newcastle on Tyne. *Signed by :* Richard Raper, Wesley Cocker, G. A. Swan.

Berkman, Wolfe, B.Sc. (Cape Town). South African. 125, Main Road, Parow, Cape Town. Biochemist to a private pathologist. *Signed by :* Max Lamchen, W. Pugh, P. C. Carman.

†**Blackmore, Richard Lye,** B.Sc. (Lond.). British. 43, Swains Lane, Highgate, N. 6. Research Chemist. *Signed by :* Michael F. Carroll, B. Dudley Sully, Denis C. Quin.

‡**Bonnell, David Glynwyn Robert,** M.Sc. and Ph.D. (Wales), Formerly Fellow of the University of Wales. British. Building Research Station, Bucknall's Lane, Garston, Watford. Principal Scientific Officer. *Signed by :* F. M. Lea, G. E. Bessey, W. G. Grindle.

†**Boyes, William Harry Douglas,** B.Sc.Hons. and Ph.D. (Edin.). British. 193, Bruntsfield Place, Edinburgh, 10. Plant Superintendent, Imperial Chemical Industries (Explosives) Ltd. *Signed by :* E. G. V. Percival, Neil Campbell, Christina C. Miller.

***Brown, Fred,** B.Sc.Hons. (Manc.). British. 10, Harling Street, Rosegrove, Burnley. Research Student, Manchester University. *Signed by :* J. K. N. Jones, E. L. Hirst, F. S. Spring.

(b)**Brown, John Frederick,** A.R.C.S. British. 30, Princethorpe Road, Sydenham, S.E.26. Research Assistant, I.C.I. *Signed by :* B. Atkinson, P. A. Robins, P. C. Bull.

†**Clarke, Geoffrey Donald,** B.Sc. (Lond.), A.R.I.C. British. 50, Woodfield Avenue, Gravesend. Lieut. R.E. *Signed by :* J. C. Crocker, F. H. Lowe, R. Leslie Collett.

‡**Cleave, Dennis Percy Collin.** British. 41, Westfield Road, Barnehurst. In charge of research and development connected with building materials and allied products. *Signed by :* A. C. Davis, M. S. Smith, W. F. Bennett.

(a)**Cummings, William Allen Wesley.** British. 27, Foxton Avenue, Cullercoats, Whitley Bay. 3rd Year honours chemistry student, King's College, Newcastle. *Signed by :* Richard Raper, Wesley Cocker, G. R. Clemo.

(a) **Davison, Jack,** Subsidiary B.Sc.(Physics) London (Ext.), studying for Special Degree (Chemistry). British. 137, Raby Road, West Hartlepool. Laboratory Assistant, engaged on research work. *Signed by :* A. J. Prince, M. P. Applebey, Michael H. M. Arnold.

†**Dunn, George,** B.Sc.Hons. (Glasgow). British. Elnathan, Nelson Street, Dunoon. Serving with H.M. Forces. *Signed by :* Henry G. A. Anderson, Edmund Bishop, Ezra Golombok.

Duval, Bruce. Matriculation. British. 24, Green Curve, Nork Park, Banstead. Laboratory Assistant. *Signed by :* R. H. Hall, Alec Elce, C. B. Maddocks.

†**Eade, Douglas Grey,** M.Sc. (Wales), A.R.I.C. British. 10, Alba Avenue, Taibach, Port Talbot. Shop Manager, Royal Ordnance Factory, Bridgend. *Signed by :* Lynn F. Jones, P. J. West, J. E. Coates, L. E. Hinkel.

‡**Emlyn, James Alan,** F.R.I.C. British. 4, Handside Green, Welwyn Garden City. Works Manager, Roche Products, Ltd. *Signed by :* Nathan C. Hindley, F. Bergel, A. Cohen.

(b)**Ferguson, John McNeill,** B.Sc.War Hons. (Glas.). British. c/o Stephen, 153, Raeberry Street, Glasgow, N.W. Assistant Chemist, Beattie's Bakeries, Ltd. *Signed by :* J. W. Cook, James Bell, J. Monteath Robertson.

‡**Halsall, Thomas Gilbert,** B.Sc.Hons. (Manc.). British. 14, Garthwaite Avenue, Oldham. Research Student in Organic Chemistry, Manchester University. *Signed by :* A. E. Gillam, J. K. N. Jones, E. L. Hirst.

***Gelles, Edward.** London Higher Schools. Open Scholarship at Balliol College. Austrian. Balliol College, Oxford. Reading for Honours B.A. in Chemistry at Oxford. *Signed by :* Ronald P. Bell, F. E. King, D. Ll. Hammick.

***Gellner, John George,** Czechoslovak. 21, Rosebery Crescent, Newcastle on Tyne, 2. Third year Honours Student in Chemistry. *Signed by :* Wesley Cocker, G. R. Clemo, Richard Raper.

‡**Katscher, Ernst,** D.Phil. (Vienna). Austrian. 1, Trowbridge Road, Bradford on Avon. Research Chemist at United Domestic Industries. *Signed by :* R. C. Peter, F. B. Meech, F. E. Needs.

‡**Key, Arthur,** B.Sc.Hons., Ph.D., and D.Sc. (Leeds). British. Caxton House, Tothill Street, S.W. 1. Chemical Inspector, Ministry of Health. *Signed by :* J. W. Baker, F. J. Dent, W. A. Wightman.

‡**Lockhart, George Watson,** B.Sc. (Edin.). Scottish. 40, Henrietta Street, Ashton under Lyne. Research Chemist with John C. Carlson, Ltd., Weir Mill, Mossley, Lancs. *Signed by :* Neil Campbell, E. G. V. Percival, Mowbray Ritchie.

***Long, Frank,** B.Sc.Hons. (Manc.). British. 12, Central Avenue, Woodheys, Sale. Research Student. *Signed by :* F. S. Spring, H. T. Openshaw, A. E. Gillam.

†**McDavid, James Wallace,** C.B.E., M.Sc. (Manc.), D.Sc. (Edin.), F.R.I.C., M.I.Chem.E. British. Crescent Park, Ardrossan. Joint Managing Director I.C.I. (Explosives), Ltd. *Signed by :* J. Weir, A. G. White, David Traill.

‡**Marks, Augustus James.** 15 Years engaged on manufacture of organic and heavy chemicals, and erection and maintenance of plant. British. 4, Mount Royd, Manningham, Bradford. Managing Director of A. H. Marks & Co., Ltd. *Signed by :* H. J. Hodsman, D. T. A. Townend, T. G. Carruthers.

(b)**Marsh, Charles Arnold.** Internal student, London University, Passed B.Sc.(Gen.) in Physics as subsidiary subject for B.Sc.(Hons.) Chemistry. British. 176, Artic Road, Cowes. Member of H.M. Forces. Previous occupation: Research assistant chemist. *Signed by :* A. J. Edwins, G. Newbery, Julius N. Ashley.

***Marsh, Harry.** British. Woods Terrace, Murton Colliery, Co. Durham. 3rd year Honours Student in Chemistry. *Signed by :* R. Raper, G. A. Swan, Wesley Cocker.

(a)**Michelson, Michael.** British. 29, Victoria Street, North Shields. Undergraduate, Final Hons. Chemistry, University of Durham. *Signed by :* Wesley Cocker, Richard Raper, G. R. Clemo.

(a)**Nicholson, George Almond.** British. 3, Earsdon Terrace, Ryhope. Undergraduate, Final Honours Chemistry, University of Durham. *Signed by :* Richard Raper, Wesley Cocker, G. R. Clemo.

†**Osborn, Harry William Edward,** F.R.I.C., A.M.I.Chem.E. British. 43, Lyncroft Avenue, Pinner. Research and Development Chemist. *Signed by :* Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.

(b)**Reid, William Russell,** B.Sc.Hons. (Edin.). Scottish. c/o Mrs. Buck, 63, Victoria Road, Stroud Green, N. 4. Development Chemist with British Glues and Chemicals. *Signed by :* James Kendall, Neil Campbell, E. G. V. Percival.

†**Robertson, Alan,** B.Sc.Hons. (Lond.), 9 years industrial research. British. 4, Thames Avenue, Thornaby on Tees. Research Chemist. *Signed by :* M. P. Applebey, A. J. Prince, A. W. Taylor.

†**Shadbolt, Frederick Stanley,** F.R.I.C. British. 11, Godstone Road, Kenley. Research Chemist. *Signed by :* Alex Findlay, H. J. T. Ellingham, R. Leslie Collett.

(b)**Smales, Geoffrey Irving,** B.Sc.Hons. (Lond.). British. 21, Orchard Avenue, Shepherd's Lane, Dartford. Analytical Chemist at the Wellcome Chemical Works. *Signed by :* G. E. Foster, R. Lindsay Grant, T. Dewing.

‡**Walters, William Ivan,** A.M.I.A.E., F.R.S.A., Member of Institute of Metals and Iron and Steel Institute. British. 1, Monks Road, Banstead. Chairman and Managing Director of "The Walterisation Co., Ltd." Purley Way, Croydon. *Signed by :* J. W. Smith, Sunil C. Mukhopadhyay, P. F. Holt.

Weller, Owen George, B.Sc.Hons. (Lond.), A.R.C.S., A.R.I.C. British. c/o Royal Empire Society, Northumberland Avenue, W.C. 2. Chemist employed by Burmah Oil Co., at Digboc Refinery, Upper Assam. *Signed by :* A. A. Eldridge, L. S. Theobald, P. C. Bull.

(b)**Whitham, Barclay Thorpe,** B.Sc.Hons. (L'pool), A.R.I.C. British. 1, Grafton Drive, Upton, Wirral. Research Chemist, Shell Marketing and Refining Co., Ltd. *Signed by :* C. N. Thompson, R. B. Bentley, S. A. Bryant.

Woolf, Lewy Isaac, B.Sc. (Lond.). British. c/o Research Department, Messrs. Allen & Hanburys, Ltd., Ware. Research Chemist. *Signed by :* C. K. Ingold, H. G. Poole, J. N. E. Day.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Gould, George Charles, F.R.S.A., M.Inst.P., M.Inst.F., Mem.A.S.M.E. English. Sind Club, Karachi, India Command. Deputy Assistant Director Mechanical Engineers. *Signed by :* S. S. Bhatnagar.

Mowry, David Thomas, B.A. (Wooster), M.Sc. and Ph.D. (Ohio State Univ.), American. Monsanto Chemical Company, Central Research Department, Nicholas Road, Dayton, Ohio. Research Chemist. *Signed by :* Charles Allen Thomas.

* Reduced annual subscription. † Three-body. (a) Junior Membership two-body.
‡ Two-body. (b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between May 17th and June 21st, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Decompositions of diazonium salts by sodium sulphite and sodium acetate. Part II. 3-Nitro-1-naphthylamine." By H. H. HODGSON and D. E. HATHWAY.

"Oxidative ring-closure in the Friedel-Crafts reaction. Part I. Condensation of β-naphthoyl chloride with α-methylnaphthalene." By G. D. BUCKLEY.

"Photo-reactions. Part XI. Reactions in sunlight involving: (*a*) Formation of triaryl methyl peroxides by the action of oxygen on triaryl methanes. (*b*) Dehydrogenation effected by oxygen. (*c*) Dehydrogenation effected by *p*-benzoquinone and phenanthraquinone." By A. SCHÖNBERG and AHMED MUSTAFA.

"Electrolytic dissociation processes. Part IV. The ionisation of a carbon-halogen bond by inorganic halides." By F. FAIRBROTHER.

"The associating effect of the hydrogen atom. Part XII. The N–H–N bond. The structure and tautomerism of cyanamides." By L. HUNTER and H. A. REES.

"Experiments on the synthesis of purine nucleosides. Part XI. The synthesis of 9-*d*-xylopyranosido-2-methylthioadenine and its conversion to 9-*d*-xylopyranosidoadenine." By G. A. HOWARD, B. LYTHGOE, and A. R. TODD.

"Oxidative ring-closure in the Friedel-Crafts reaction. Part II. Condensation of aromatic acid chlorides with naphthalene derivatives." By G. D. BUCKLEY.

"The preferential reduction of nitro-groups in polynitro-compounds. Part III. The preparation of 3 : 6-dinitro-1 : 8-naphthylenediamine from 1 : 3 : 6 : 8-tetranitronaphthalene." By H. H. HODGSON, E. R. WARD, and J. S. WHITEHURST.

"Structure of compounds of ferrocyanide type. Part I. Crystal structure of hexamethyl*iso*nitrilo ferrous chloride." By H. M. POWELL and G. W. R. BARTINDALE.

"Chemotherapeutic agents of the sulphone type. Part I. Sulphones containing a *p*-aminophenyl group." By J. WALKER.

"Chemotherapeutic agents of the sulphone type. Part II. Sulphones related to benzamidine and benzylamine." By A. T. FULLER, (MISS) I. M. TONKIN, and J. WALKER.

"Contributions to the chemistry of synthetic antimalarials. Part I. Some dialkylaminoalkylamino derivatives of pyridine and thiazole." By J. N. ASHLEY and J. F. GROVE.

"The persulphate-iodide reaction. Part III. Specific effects of monovalent and bivalent cations. The activation energy of the reaction." By W. J. HOWELLS.

"Attempts to find new anti-malarials. Part XXIV. Derivatives of *o*-phenanthroline (7 : 8 : 3′ : 2′-pyridoquinoline)." By (MISS) B. E. HALCROW and W. O. KERMACK.

"Symmetrical dicarbocyanines having a methyl group as substitutent on the chain." By (MISS) F. M. HAMER and R. J. RATHBONE.

"*N*-Substituted 5-aminoacridines." By D. J. DUPRÉ and F. A. ROBINSON.

"The resorcitols. Part I. Isolation of *cis*- and *trans*-isomers; some derivatives." By W. RIGBY.

"The resorcitols. Part II. Resolution of *trans*-resorcitol." By W. RIGBY.

"The resorcitols. Part III. Oxidation products." By W. RIGBY.

"α-Methylenic reactivity in olefinic systems. Part II. The reaction between olefines and phenyl *iso*-cyanate: evidence relating to the catalytic action of stannic chloride." By J. W. BAKER and J. B. HOLDSWORTH.

"*N*-2 : 4-Dinitrophenyl-*N*′-nitrourea: A reagent for primary and secondary amines." By (MISS) J. L. MCVEIGH and J. D. ROSE.

"2 : 4-Dinitrophenylsemicarbazide: A reagent for aldehydes and ketones." By (MISS) J. L. MCVEIGH and J. D. ROSE.

"Reactions of alkyl*iso*formanilides. Part I. With carboxylic acids, sulphonic acids, and sulphonamides." By E. B. KNOTT.

"New syntheses of heterocyclic compounds. Part IV. 3-Azaphenthiazines." By V. A. PETROW and E. L. REWALD.

"Structure and antimalarial activity. Part I. Some acridine derivatives." By (MISS) D. MURIEL HALL and E. E. TURNER.

"Structure and antimalarial activity. Part II. *iso*Alloxazines, quinoxalines, and quinoxalo*cyclo*pentadienes." By (MISS) D. MURIEL HALL and E. E. TURNER.

"Studies on phosphorylation. Part II. The reaction of dialkyl phosphites with polyhalogen compounds in presence of bases. A new method for the phosphorylation of amines." By F. R. ATHERTON, H. T. OPENSHAW, and A. R. TODD.

"2-*p*-Aminobenzenesulphonamido-pyrimidines. Preparation by a novel route." By F. L. ROSE and G. SWAIN.

"Some derivatives of 2 : 2-*bis*-(4-chlorophenyl)-1 : 1 : 1-trichloroethane (DDT)." By O. G. BACKEBERG and J. L. C. MARAIS.

"A contribution to the study of nicotine and the synthesis of 7-azaindole and derivatives." By G. R. CLEMO and G. A. SWAN.

"Dissociation constant, solubility, and the pH-value of the solvent." By H. A. KREBS and J. C. SPEAKMAN.

TECHNOLOGY DEPT.

July, 1945.

PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

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OFFICIAL ANNOUNCEMENTS

ACKNOWLEDGMENTS.

The President has received the following letters in reply to his cables sent on the occasion of the Anniversary Meeting on April 19th, 1945:

American Chemical Society,
1155, *Sixteenth Street, N.W.,*
Washington, D.C.
April 25*th*, 1945.

MY DEAR PRESIDENT HAWORTH,

On behalf of the Board of Directors and members of the American Chemical Society I wish to acknowledge with very real appreciation your cablegram just received sending us the cordial greetings from the Officers, Council, and Fellows of The Chemical Society at the time of your 104th anniversary and your sympathy on the great loss which recently came to our Country and the world.

I sincerely trust that the great impediments that have come to both of our organizations incident to the war will soon be removed and that we may go forward together in advancing chemistry and its usefulness to mankind, which is the basic objective of both of our organizations.

Sincerely yours,
CHARLES L. PARSONS,
Secretary.

Société Chimique de Belgique,
Rue des Carmelites, 164,
Bruxelles.
le 10 *juin* 1945.

MON CHER COLLÈGUE,

J'ai lu ce jour devant nos membres, au cours de la première assemblée générale que nous avons eue depuis le début de la guerre, l'adresse que vous avez bien voulu nous envoyer à l'occasion du meeting du 104e anniversaire de la Chemical Society of London.

C'est avec une émotion intense que nous avons reçu ce message de nos amis et collègues d'Outre-manche, le premier qui nous arrivait, après tant de dures années d'épreuves et d'oppression, du monde libre et fier qui nous a porté secours et nous a délivré par sa victoire totale.

Au nom de tout nos membres, j'envoie à vous même et à tous nos confrères de la Chemical Society, nos remerciements très sincères pour votre attention qui a touché notre coeur. J'exprime le voeu de voir les liens d'amitié entre nos deux pays et entre nos deux sociétés se resserrer encore plus intimement si possible que par le passé.

Veuillez agréer, mon cher Collègue, l'assurance de mes sentiments les plus distingués.

Le Président,
A. GILLET.

Faculté de Médecine de Paris,
12, *rue de l'Ecole de Médecine,*
Paris VIe.
le 25 *Avril* 1945.

MON CHER PRÉSIDENT ET TRÈS HONORÉ COLLÈGUE,

Au nom de la Société Chimique de France dont j'ai l'honneur d'être le Président depuis janvier 1945, je vous adresse tous mes remerciements pour les sentiments si chaleureux et si cordiaux que vous avez exprimés dans votre télégramme du 19 avril.

A mon tour je vous adresse, avec le cordial salut de la Société Chimique de France, l'expression de nos sentiments de vive admiration et de profonde reconnaissance pour la part prise par la Grande Bretagne dans la libération de notre sol et dans le triomphe de la liberté.

Je vous ai adressé aujourd'hui par l'intermédiaire du Ministère des Affaires étrangères un télégramme

rédigé en terms un peu laconiques mais dont voici le texte intégral : " M. le Président de la Chemical Society, Nous partegeons votre enthousiasme pour la victoire prochaine et votre foi dans l'avenir de l'humanité. Nous admirons les immenses efforts et les lourds sacrifices de la nation anglaise et de ses alliés pour libérer la France et nous restons profondément fidèles à l'amitié franco-anglaise. Nous vous adressons tous nos voeux pour la prospérité de la Chemical Society à l'occasion du 104ème anniversaire de sa fondation. Tiffeneau."

Il me reste à vous remercier personnellement pour vos très aimables attentions vis-à-vis de la Société Chimique de France et je vous serais très reconnaissant de vouloir bien exprimer tous nos remerciements à vos collègues du Conseil et aux membres de votre Société. Pour ma part j'avais déjà écrit en septembre dernier au Secrétaire de la Chemical Society en le priant d'exprimer à la Chemical Society toute mon admiration pour le magnifique effort de la Grande-Bretagne venant libérer la France. Permettez-moi d'y ajouter mes sentiments personnels d'admiration pour l'apport considérable des chimistes anglais dans le progrès de la chimie et tout particulièrement ceux que vous-même avez réalisés avec vos nombreux élèves dans le domaine des sucres.

Veuillez agréer, mon cher Président, avec mes sentiments de vive sympathie, l'assurance de ma considération la plus distinguée.

M. TIFFENEAU.

DEATHS.

The Council regret to announce the deaths of the following Fellows :

	Elected.	Died.
Charles Kelway Bamber	1914	June 22nd, 1945.
Frank Gossling	1890	June 21st, 1945.
Richard Greenhalgh	1925	March 5th, 1945.
Owen Lewis Hughes	1934	May 14th, 1945.
Walter Eric James	1941	June 7th, 1945.
Alexander Kenneth Miller	1880	June 19th, 1945.
Clarence Smith	1904	June 28th, 1945.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to the Royal Society for a grant of £200 from the Government Grant towards the cost of the Society's publications for 1945, and to Messrs. G. H. Elliott, J. R. Grey, A. Merrick and A. Wolff for presenting publications of the Society.

FELLOWSHIP.

The following 26 candidates were elected Fellows of the Chemical Society on June 21st, 1945 :

Peter William Arnold.
Archibald Raymond Boyle.
Terence John Cahill.
Arthur Henry John Cross.
Jean Margaret Crum.
Peter Sidney Dunnett.
James Arthur Edge.
John Brook Fortune.
Heiem Gomberg.
James William Hatch.
Franz Moritz Herzberg.
Edward Stuart Hornby.
Eric Neil Jenkins.
Francis Bernard Jones.
Max Berthold Klein.
John Wilfred Linnett.
Ronald James Loneragan.
Brian Arthur Loveridge.
John Bryant Matthews.
Eric Ackerley O'Brien.
Max Pianka.
Evan Roberts.
Keith William Russell.
Ernest John Tauch.
Harry Hyman Topper.
Arthur Walton.

LIST OF APPLICATIONS FOR FELLOWSHIP

(Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries within ten days of the date of publication of the Journal for July, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.)

‡**Bernhardt, Frederick William.** British. 19, Wilton Grove, Wimbledon, S.W. 19. Chief Research and Analytical Chemist at Dussek Bitumen and Taroleum, Ltd., Empress Wharf, Sherman Street, Bromley by Bow, E. 3. *Signed by :* Arthur L. Beattie, Vernon Harbord, L. G. Gabriel.

(a)**Beswick, Gordon,** Inter.B.Sc. (Lond.). British. 14, Torrington Road, Swinton, Manchester. Student at the Royal Technical College, Salford, studying for B.Sc. Final. *Signed by :* E. G. Edwards, E. Isaacs, D. B. Kelly.

(b)**Coleman, Russell Neville.** British. Cooper's Arms, Commercial Road, Bulwell, Nottingham. Assistant Mining Chemist. *Signed by :* E. B. R. Prideaux, A. Smith, H. F. W. Taylor.

Corker, Alfred Eric, A.R.I.C., Ph.C., M.P.S. British. 22, Courtfield Gardens, S.W. 5. Technical Assistant, Directorate of Medical Supplies, Ministry of Supply. *Signed by :* Alex. Findlay, R. Leslie Collett, H. J. T. Ellingham.

(b)**Durham, Raymond Wilson.** 4 years' Industrial experience. British. 14, Coniston Road, Stockton-on-Tees. First year Hons. Chem. Student, Durham University. *Signed by :* G. H. Christie, C. W. Gibby, W. A. Waters.

Elmore, Donald Trevor, B.Sc. (Lond.), A.R.C.S. British. University College, University Park, Nottingham. Research Assistant. *Signed by :* D. O. Jordan, J. Masson Gulland, E. O'F. Walsh.

***Green, Mino,** H.S.C. (Oxford and Cambridge). American. 27, Regents Court, Park Road, N.W. 1. First year Hons. Chem. Student at the University of Durham. *Signed by :* G. H. Christie, W. A. Waters, C. W. Gibby.

‡**Hewson, William Arnold,** B.Sc. (Lond.), A.R.I.C. British. 140, Farnaby Road, Bromley. Research Chemist with Radio Transmission Equipment, Ltd., 122, Brixton Hill. *Signed by :* R. Ll. Rees, G. White, J. M. Allan.

†**Linton, Keith Frank Astell,** B.Sc. (Lond.), D.I.C., A.R.I.C. British. 3, St. Philips Road, Surbiton. Chemist, Southern Railway Co. *Signed by :* Ernest A. Dancaster, J. Kenyon, L. L. Katan.

‡**Park, James Ritchie,** M.Sc. (Lond.). British. 10, Crooksbarn Lane, Norton, Stockton-on-Tees. Chemist, I.C.I., Ltd. (Billingham Division). *Signed by :* A. J. Prince, M. P. Applebey, G. I. Higson.

***Pegg, John Arthur,** Natural Science Exhibitioner, Magdalen College, Oxford. British. 66, Mackenzie Street, Derby. Studying for an Honours Degree in Chemistry at Oxford University. *Signed by :* Ronald P. Bell, F. E. King, L. E. Sutton.

‡**Pinniger, Edward Bertram.** British. Dalegarth, 5, Endlebury Road, Chingford, E. 4. Chemist and Technical Manager, The British Homophone Co., Ltd., New Cross. *Signed by :* R. Bruce Harley, J. R. I. Hepburn, Charles G. M. de Worms.

***Powell, Gwyneth Audrey.** British. St. Hilda's College, Oxford. Reading for Honours Degree in Chemistry. *Signed by :* Ronald P. Bell, H. W. Thompson, C. N. Hinshelwood.

***Pridgeon, Eleanor Mary,** B.Sc. (Lond.). British. River Farm, Keddington, Louth, Lincs. School Teacher. *Signed by :* E. E. Turner, Mary S. Lesslie, Margaret M. Jamison.

***Purssell, Anthony John Richard.** British. Underhayer, St. Stephens, Launceston. Honours Chemistry Student, Oxford University. *Signed by :* Ronald P. Bell, D. Ll. Hammick, Harry Irving.

Rushton, Arthur, Inter.B.Sc. (Lond.), M.R.S.T., Certificated Schoolmaster. British. High Hill, Essington, near Wolverhampton. Senior Science Master at Heaton Moor College, Stockport. *Signed by :* Joseph H. Roberts, H. T. Openshaw, A. E. Gillam.

‡**Soames, Thomas Arthur,** B.Sc.Hons. (Lond.). British. 115, St. Paul's Avenue, Kenton. Research Chemist, Messrs. Coates Bros. & Co., Ltd., Easton Street, W.C. 1. *Signed by :* F. A. Askew, D. C. Jones, H. D. K. Drew.

(b)**Shapland, John Dee,** Inter.B.Sc. (Scholarship at Imperial College). British. Chislehurst, Sydenham Villas Road, Cheltenham. Student. *Signed by :* A. A. Eldridge, H. V. A. Briscoe, A. G. Pollard.

***Smith, Julian Ross.** British. Tanford, 87, Wrottesley Road, Tettenhall, near Wolverhampton. Honours Student Chemistry, Oxford University. *Signed by :* Ronald P. Bell, D. Ll. Hammick, R. S. Asquith.

Stopes-Roe, Harry Verdon, B.Sc. (Lond.), A.R.C.S. British. Norbury Park, near Dorking. University Teacher. *Signed by :* A. A. Eldridge, J. A. Kitchener, H. V. A. Briscoe.

Thomas, Leo Harvey, M.Sc. (Wales), A.R.I.C. British. 9, Aubrey Road, Penygraig, Rhondda. Chemistry Lecturer at the School of Mines and Technology, Treforest. *Signed by :* W. J. Jones, S. T. Bowden, N. M. Cullinane.

***Trotman-Dickenson, Aubrey Fiennes.** British. Balliol College, Oxford. Reading for Honours Degree in Chemistry *Signed by :* Ronald P. Bell, W. A. Cowdrey, H. W. Thompson.

***Taylor, Helan Vivien.** British. Troutbeck Hotel, Ilkley. Reading for Honour's Degree in Chemistry (Oxford). *Signed by :* Ronald P. Bell, H. W. Thompson, John Gadsby.

†**Truesdale, Thomas.** Higher National Certificate in Chemistry. British. 26, Partington Street, Heywood, Lancs At present serving in H.M. Forces. *Signed by :* O. Rhys Howell, John K. Wood, G. Baddeley.

†**White, Ernest Eric,** Inter.B.Sc., Final B.Sc. Physics, subsidiary (Lond.), A.R.I.C. British. 62, St. Andrews Road, Ilford. Senior Chemist with The Plessey Co., Ltd., Vicarage Lane, Ilford. *Signed by :* W. H. Simmons, E. R. Wellburn, J. O. Lay.

***Williams, Gareth Howel,** B.Sc.Hons. (Lond.), awarded November, 1945. British. 16, Esmond Road, Bedford Park, W. 4. Research Student, University College. *Signed by :* H. G. Poole, J. N. E. Day, Henry Terrey.

‡**Winsnes, Paul Hesbo,** Associate of Leathersellers' Technical College, British. Mayfield, Cheltenham Avenue, Ipswich. Chemist and Works Manager with Messrs. W. & A. J. Turner (Ipswich), Ltd., The Tannery, Bramford Road, Ipswich. *Signed by :* M. P. Balfe, J. H. Bowes, R. G. Wallis.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Beyerman, Hugh Christiaan, dipl.Ing.chem., D.Sc. (Zurich). Dutch. Hyde House, 51, Queensborough Terrace, W. 2. Technical Staff of the Netherlands Government, c/o Department of Trade & Industry, Stratton House, Stratton Street, W. 1. *Signed by :* L. Ruzicka.

Bun-Hoi, Ng. Ph., B.Sc. (Hanoi), D.Sc. (Paris). Licencié-ès-Sciences, pharmacien ancien Interne des Hôpitaux, Lauréat de l'Académie des Sciences (Paris). Free Indochinese. 17, Rue des Fossés Saint-Marcel, Paris, Ve. Chargé de Recherches à l'Ecole Polytechnique and Chimiste de l'Institut du Radium, Paris. *Signed by :* J. W. Cook.

Hoehn, Willard Max, A.B.S. (Blackburn College), B.S. (Univ. of Illinois), Ph.D. (Iowa State College). Nine years Research experience. American. Research Laboratories, George A. Breon & Co., Box 769, Kansas City, 10. Director of Laboratories. *Signed by :* James A. Austin, L. V. Sorg.

Fletcher, Hewitt Grenville, Jr., S.B. and Ph.D. (Massachusetts Institute of Technology). American. Massachusetts Institute of Technology, Room 4-447, Cambridge 39, Mass. Instructor in Chemistry. *Signed by :* Clifford B. Purves.

Walby, Alfred Leonard, M.B., B.Ch. (Q.U.B.). British. 56, Dublin Road, Belfast, Northern Ireland. Senior Medical Officer of R.A.F. Stations, S.E.A.A.F. *Signed by :* Harry Sharpe.

* Reduced annual subscription.
‡ Two-body.
† Three-body.
(a) Junior Membership two-body.
(b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between June 21st and July 31st, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Synthetical experiments on the constitution of α-biotin. Part I." By R. GHOSH, J. F. W. MCOMIE, and J. P. WILSON.
"The preparation of 7-nitro-2-naphthylamine and of 3 : 6-dinitronaphthalic anhydride." By H. H. HODGSON and E. R. WARD.
"The acylation of 2-methyl-3-carbethoxy-4-hydroxythiophen." By J. H. BEYNON and A. B. A. JANSEN.
"Reduction by dissolving metals. Part II." By A. J. BIRCH.
"Reduction by dissolving metals. Part III." By A. J. BIRCH.
"The vibrational spectra of esters and ketones." By H. W. THOMPSON and P. TORKINGTON.
"The crystal structure of coronene. A quantitative X-ray investigation." By J. MONTEATH ROBERTSON and J. G. WHITE.
"The chemistry of gum tragacanth. Part I. Tragacanthic acid." By SYBIL P. JAMES and F. SMITH.
"The chemistry of gum tragacanth. Part II. Derivatives of *d*- and *l*-fucose." By SYBIL P. JAMES and F. SMITH.
"The chemistry of gum tragacanth. Part III." By SYBIL P. JAMES and F. SMITH.
"The capsular polysaccharide of rhizobium radicicolum." By (MISS) E. SCHLÜCHTERER and M. STACEY.
"The union of gaseous oxygen with methyl oleate, linoleate, and linolenate." By F. D. GUNSTONE and T. P. HILDITCH.
"A possible structure of α-naphthol and its relation to its coupling with aromatic diazo-compounds." By B. GLUCK.
"A possible isomerism of α-naphthol-2-carboxylic acid." By B. GLUCK and M. PIANKA.
"Melanin formation." By G. R. CLEMO and J. WEISS.
"Studies on hydrogen cyanide. Part XV. The action of hydrogen chloride on acetonitrile." By L. E. HINKEL and G. J. TREHARNE.
"New potential chemotherapeutic agents. Part I. Derivatives of aminoquinoxalines." By F. E. KING and R. J. S. BEER.
"Sulphonamides. Part I. The action of ammonia on sulphanilamidobenzoic esters in the light of the general theory of ester ammonolysis." By J. H. GORVIN.
"Sulphonamides. Part II. The action of amines on ethyl 4-sulphanilamidobenzoate. Some alternative preparative methods for sulphanilamidobenzamides." By J. H. GORVIN.
"The bromination of 4 : 4′-diamidino-αγ-diphenoxypropane and of 4 : 4′-diamidino-stilbene." By A. J. HENRY.
"New potential chemotherapeutic agents. Part II. Derivatives of 3-aminophenazone." By F. E. KING and T. J. KING.
"The kinetics of exchange reactions. Part III. Influence of solvent and molecular structure." By L. J. LE ROUX, C. S. LU, S. SUGDEN, and R. H. K. THOMSON.
"Mesohydric tautomerism." By L. HUNTER.
"Mercurous perchlorate as a volumetric reagent for iron." By W. PUGH.
"*N*-Dichlor monoethanolamine hydrogen sulphate (sodium salt)." By K. H. PAUSACKER.
"The chemistry of xanthic acid derivatives. Part I. The preparation and comparative properties of isomeric xanthates and dithiocarbonates." By G. BULMER and F. G. MANN.
"The chemistry of xanthic acid derivatives. Part II. The thermal decomposition of disulphurdicarbothionic esters." By G. BULMER and F. G. MANN.
"The chemistry of xanthic acid derivatives. Part III. The interaction of carboxylic acid chlorides and potassium ethyl xanthate." By G. BULMER and F. G. MANN.
"The chemistry of xanthic acid derivatives. Part IV. The interaction of sulphonyl chlorides and potassium ethyl xanthate." By G. BULMER and F. G. MANN.
"Formation of phthalides by the Diels–Alder reaction." By A. W. JOHNSON.
"The synthesis and properties of 1 : 7-dialkyl xanthines." By F. G. MANN and J. W. G. PORTER.
"The interconversion of iron oxides and sulphides. Part I. The action of hydrogen sulphide on iron oxides." By R. H. GRIFFITH and A. R. MORCOM.
"The interconversion of iron oxides and sulphides. Part II. The oxidation of iron sulphides." By R. H. GRIFFITH and A. R. MORCOM.
"The preparation of olefines from aldehydes and ketones." By R. H. GRIFFITH.
"The carbonyl constituents of eucalyptus oils. Part IV. The constitution of phellandral. *d*-, *l*-, and *dl*-β-*iso*propyladipic acids." By G. BURGER and A. KILLEN MACBETH.

"Epimeric alcohols of the cyclohexane series. Part V. The inactive 3-methyl*cyclo*hexan-1-ols." By A. KILLEN MACBETH and J. A. MILLS.

"Syntheses of 2-monosubstituted and 2 : 3-disubstituted quinoxalines." By A. H. GOWENLOCK, G. T. NEWBOLD, and F. S. SPRING.

"The application of the Hofmann reaction to the synthesis of heterocyclic compounds. Part III. Synthesis of 3-alkyl-2 : 4-diketo-1 : 2 : 3 : 4-tetrahydroquinazolines from *N*-alkylphthalamides." By F. S. SPRING and J. C. WOODS.

"Studies in the detoxication of catalyst poisons. Part II. The use of various oxidising agents for the detoxication of cystein." By E. B. MAXTED.

"Studies in the detoxication of catalyst poisons. Part III. The detoxication of cystein with metallic per-acids." By E. B. MAXTED and A. MARSDEN.

"The sorption of condensable vapours by porous solids. Part III. Multimolecular adsorption." By A. G. FOSTER.

"The sorption of condensable vapours by porous solids. Part IV. Linear isothermals and the Langmuir equation." By A. G. FOSTER.

"Characterisation of 2 : 6-dimethyl-*d*-galactose." By D. J. BELL.

"Derivatives of 1-azanthraquinone. Part I." By G. R. CLEMO and G. W. DRIVER.

"The crystal structure of tribromo (trimethylphosphine) gold." By M. F. PERUTZ and (MISS) O. WEISZ.

"The Preparation of some 2 : 3-naphthalene derivatives." By H. H. HODGSON and D. E. HATHWAY.

"Replacement of the diazonium- by the acetoxy-group, and improved preparations of non-steam volatile phenols. Part I. 3-Nitrophenol and 2-nitro-*p*-cresol." By H. H. HODGSON.

"An interpretation of the Sandmeyer reaction. Part VII. The formation of complex salts between aryl diazonium chlorides and ferric chloride of general formula, $R{\cdot}\overset{\oplus}{N_2}\}\overset{\ominus}{FeCl_4}$, and the decomposition of *p*-nitrobenzenediazonium chloride by ferrous salts." By H. H. HODGSON and D. D. R. SIBBALD.

"The preferential reduction of nitro-groups in polynitro-compounds. Part IV. The preparation of 4 : 5-dinitro-2-naphthylamine from 1 : 3 : 8-trinitronaphthalene, and a comparison of sodium sulphide reductions of available dinitronaphthalenes." By H. H. HODGSON and E. R. WARD.

"Studies on sugar osazones. Part VII. A comparison of the phenylosazones prepared from 3 : 6-anhydro-*d*-glucose and 3 : 6-anhydro-*d*-galactose with the anhydro-osazones prepared from *d*-galactosazone and *d*-glucosazone by the method of Diels and Meyer." By E. G. V. PERCIVAL.

"Synthesis of diamino sulphones." By A. A. GOLDBERG.

"The constitution of *pseudo*-santonin. Part I." By G. R. CLEMO and W. COCKER.

"The constitution of *pseudo*-santonin. Part II. The preparation of certain dimethyl naphthols." By W. COCKER.

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NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, October 4th, 1945, at 5 p.m.

Lecture on " Recent Work on Corrosion and Oxidation Reactions," by Dr. U. R. Evans, M.A.

Thursday, November 1st, 1945, at 5 p.m.

Meeting for the reading of original papers. (Further particulars will be announced.)

Thursday, December 6th, 1945, at 5 p.m.

Meeting for the reading of original papers. (Further particulars will be announced.)

Note: The attention of Fellows is specially drawn to the change of time of meeting to **5 p.m.**

OUTSIDE LONDON.

EDINBURGH.

Tuesday, November 27th, 1945, at 7 p.m.

Lecture on " The Structure and Chemistry of Metallic Crystals," by Professor G. D. Preston, M.A., Sc.D., F.Inst.P. Joint Meeting with the University Chemical Society and the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Biochemical Lecture Theatre of the University, Teviot Place.

GLASGOW.

Friday, October 26th, 1945, at 3.30 p.m.

Lecture on " Long Chain Molecules," by Sir Robert H. Pickard, D.Sc., F.R.S. Joint Meeting with the Glasgow University Alchemists' Club and the Andersonian Chemical Society. To be held in the Large Lecture Theatre of the Chemistry Department, The University.

Friday, November 16th, 1945, at 7.15 p.m.

Lecture on " Polynucleotides and Nucleoproteins," by Professor J. M. Gulland, D.Sc., F.R.S. To be held in the Royal Technical College.

LEEDS.

Monday, November 26th, 1945, at 6.30 p.m.

Tilden Lecture on " Substitution," by Professor E. D. Hughes, D.Sc., F.R.I.C. To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, November 15th, 1945, at 4 p.m.

Lecture on " The Structure of the Boron Hydrides and Related Compounds," by Mr. R. P. Bell, M.A., F.R.S. To be held in the Muspratt Lecture Theatre of the University.

MANCHESTER.

Monday, October 29th, 1945, at 7 p.m.

Lecture on " The Publications of the Three Chartered Bodies," by Mr. F. P. Dunn, B.Sc., F.R.I.C. Joint Meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Engineers' Club, Albert Square.

Thursday, November 15th, 1945, at 6 p.m.

Meeting for the reading of original papers. To be held in the Chemistry Lecture Theatre of the University. (Further particulars will be announced.)

NORTH WALES.

Thursday, November 22nd, 1945, at 5.30 p.m.

Lecture on "Colchicine: its Chemistry and Some Biological Effects," by Professor J. W. Cook, D.Sc., F.R.S. Joint Meeting with the University College of North Wales Chemical Society, to be held in the Department of Chemistry at University College, Bangor.

NOTTINGHAM.

Friday, November 2nd, 1945, at 7 p.m.

Lecture on "Some Problems in the Chemistry of the Polysaccharides," by Professor E. L. Hirst, M.A., D.Sc., F.R.S. To be held in the Chemistry Lecture Theatre of University College.

Thursday, November 29th, 1945, at 4 p.m.

Lecture on "Structural Inorganic Chemistry," by Professor W. Wardlaw, D.Sc., F.R.I.C. Joint Meeting with the University College Physical and Chemical Society to be held in the Chemistry Lecture Theatre of University College.

SHEFFIELD.

Friday, October 26th, 1945, at 6 p.m.

Lecture on "Flame," by Professor D. T. A. Towend, D.Sc. Joint Meeting with the South Yorkshire Section of the Royal Institute of Chemistry, to be held in the Chemistry Lecture Theatre of the University.

Friday, November 16th, 1945, at 5.30 p.m.

Lecture on "Our War Against Insect Pests," by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S. Joint Meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

SOUTH WALES.

Friday, November 23rd, 1945.

Lecture on "Colchicine: its Chemistry and Biological Effects," by Professor J. W. Cook, D.Sc., F.R.S. Joint Meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held in Cardiff. (Further particulars will be announced.)

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

LIBRARY.

As from Monday, October 1st, the Library will revert to the pre-war hours of opening, namely:

Monday to Friday, from 10 a.m. to 9 p.m.
Saturday, from 10 a.m. to 5 p.m.

RESEARCH FUND.

A meeting of the Research Fund Committee will be held in November next. All persons, therefore, who have received grants, and whose accounts have not been declared closed by the Council, are informed that reports must be received by the Society not later than November 1st, 1945.

Applications for grants, to be made on forms obtainable from the General Secretary, must be received on or before November 1st, 1945. Applications from Fellows will receive prior consideration.

Attention is drawn to the fact that the income arising from the Donation of the Worshipful Company of Goldsmiths is principally devoted to the encouragement of research in Inorganic and Metallurgical Chemistry, and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and Allied Industries.

EDITORSHIP.

Professor C. S. Gibson, O.B.E., M.A., Sc.D., F.R.S., has agreed to act temporarily as Editor of the Society's publications.

BRITISH STANDARDS.

Draft revisions of the following existing British Standards have been received for technical comment:—

B.S. 517—1938, Cresylic Acid of High Orthocresol Content;
B.S. 521—1938, Cresylic Acid (50/55 per cent. Metacresol);
B.S. 522—1938, Orthocresol, Metacresol and Paracresol;
B.S. 523—1938, Phenol;
B.S. 524—1938, Refined Cresylic Acid.

These have been placed in the Library, and Fellows wishing to make technical comments on them are requested to do so before September 28th, 1945, to the British Standards Institution, 28, Victoria Street, Westminster, London, S.W. 1.

FELLOWSHIP.

The following 43 candidates were elected Fellows of the Society on July 30th, 1945:

John Thomas Adams.
William Anderson.
Audrey Barlow.
Ronald Bell.
Wolfe Berkman.
Richard Lye Blackmore.
David Glynwyn Robert Bonnell.
William Harry Douglas Boyes.
Fred Brown.
John Frederick Brown.
Geoffrey Donald Clarke.
Dennis Percy Collin Cleave.
William Allen Wesley Cummings.
Jack Davison.
George Dunn.
Bruce Duval.
Douglas Grey Eade.
James Alan Emlyn.
John McNeill Ferguson.
Thomas Gilbert Halsall.
Edward Gelles.
John George Gellner.
George Charles Gould.
Ernst Katscher.
Arthur Key.
George Watson Lockhart.
Frank Long.
James Wallace McDavid.
Augustus James Marks.
Charles Arnold Marsh.
Harry Marsh.
Michael Michelson.
David Thomas Mowry.
George Almond Nicholson.
Harry William Edward Osborn.
William Russell Reid.
Alan Robertson.
Frederick Stanley Shadbolt.
Geoffrey Irving Smales.
William Ivan Walters.
Owen George Weller.
Barclay Thorpe Whitham.
Lewy Isaac Woolf.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries within ten days of the publication of the August* JOURNAL. *Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

(a)**Ansbacher, Henry,** B.Sc. (Lond.), A.R.C.S. British. 34, Forty Lane, Wembley Park. Analytical Chemist to International Chemical Co., Ltd., Braydon Road, N. 16. *Signed by :* J. J. Gordon, Geo. R. W. Wilkinson, Theodore White.

Barany, Heinz Carl, Ing.Chem. (State Institute for Chemistry Investigation and Industry, Vienna). Stateless, formerly Austrian. 11, Fitzjohns Avenue, N.W.3. Research Chemist to Dufay Chromex Ltd., Elstree. *Signed by :* B. Gluck, G. Colman Green, H. Surfleet.

***Barnes, Desmond Arthur Sidney.** Inter.B.Sc. and subsidiary Physics (with Radio) (Lond.). British. Connaught Hall, Wessex Lane, Swaythling, Southampton. Student, University College, Southampton, studying for B.Sc. (Special Chemistry). *Signed by :* S. H. Harper, Ishbel G. M. Campbell, N. K. Adam.

***Butterfield, David Elliott.** British. 2, Manor Park Road, Nuneaton. Reading Part II Chemistry, Cambridge University. *Signed by :* N. B. Chapman, B. A. Kilby, F. S. Dainton.

†**Clark, Frank,** B.A. (Cantab.), B.Sc. (Lond.). A.R.I.C. British. 12, Fontmell Park, Ashford. Chemist, Ministry of Supply. *Signed by :* E. W. S. Press, L. H. A. Holmes, G. L. Hammond.

‡**Corbett, George Charles.** British. Bengairn, 42, Higher Bebington Road, Bebington, Wirral. Chemical Plant Superintendent. *Signed by :* George Brearley, J. Sowler, E. Finkelstone.

(a)**Featherstone, Arthur Andrew Valentine.** Inter.B.Sc. (Lond.). British. 130, Widnes Road, Widnes. Assistant Chemist at Messrs. Albright & Wilson Ltd., Chemical Manufacturers, Widnes. *Signed by :* R. Owen, James F. Sumner, R. E. Robinson.

***Forster, William Atkinson.** British. 11, Wimborne Avenue, Sunderland, Co. Durham. Final year student reading for B.Sc. (Hons. Chemistry) at King's College, Newcastle. *Signed by :* W. M. Madgin, Richard Raper, G. R. Clemo.

†**Greenstreet, Cyril Henry,** B.Sc. (Lond.), deferred until 1946. British. Confectioners, Station Lane, Hornchurch. Student at University College, London. *Signed by :* L. F. Gilbert, O. L. Brady, Henry Terrey.

‡**Haslam, John,** B.Sc. (Manc.). British. 3, The Oaks, Styal Road, Heald Green. Works Chemist, The Manchester Chemical Co., Ltd., Bradshaw Street, Manchester. *Signed by :* J. W. Herbert, F. S. Spring, Colin Campbell, G. N. Burkhardt.

Higginbotham, Richard Staples, B.Sc. (Lond.). British. 22, Woodlands Road, Heaton Mersey, Manchester. Research Officer, British Cotton Industry Research Association. *Signed by :* Douglas W. Hill, R. G. Fargher, J. C. Withers.

‡**Jackson, Peter John,** B.Sc. (Lond.). British. 16, Melrose Avenue, Sherwood, Nottingham. Analyst. *Signed by :* E. B. R. Prideaux, John C. Roberts, H. F. W. Taylor.

‡**Krase, Norman William,** B.S. in Ch.E. (University of Illinois), M.S. (American University), Ph.D. (Yale), 13 years as Professor of Chemical Engineering, 6 years as Chemical Engineer at Du Pont Co. American. E. I. Du Pont de Nemours & Co., Manfield House, 376—379, Strand, W.C. 2. European Technical Representative, E. I. Du Pont de Nemours & Co., Wilmington, Del. *Signed by :* E. A. Cooke, J. Ferguson, J. Haslam.

(a)**Leighton, Desmond,** Inter.B.Sc. (Lond.). British. 8, Beaver's Lane, Hounslow. Assistant Research Chemist at Williams (Hounslow) Ltd., Aniline dye manufacturers. *Signed by :* W. Davey, R. G. Munson, Arthur E. James.

‡**Meggy, Alexander Bernard,** B.Sc. (Lond.), Ph.D. (Oxon.), A.R.I.C. British. 3, Stoneygate Road, Leicester. Head of Chemistry Department, College of Technology, Leicester. *Signed by :* Malcolm Crawford, L. Hunter, H. T. Openshaw.

†**Mooney, George,** B.Sc. (Glas.), Ph.C., A.R.I.C. (pending). British. 33, Eastfields Road, Acton, W. 3. Research biochemist. *Signed by :* W. M. Cumming, A. A. Houghton, Rowland A. Evans.

†**Maynard, Thomas Reginald Peter,** B.Sc. (Lond.). British. 21, Pelham Square, Brighton, 1. Research student at Imperial College, London. *Signed by :* B. Atkinson, J. A. Kitchener, A. A. Eldridge.

***Morrison, George Alfred.** Entitled to a B.A.Hons. (Oxon). British. Clyde Villa, 130, Fog Lane, Didsbury, Manchester, 20. Junior Research Officer, Shirley Institute, Didsbury, Manchester, 20. *Signed by :* F. M. Brewer, D. Ll. Hammick, J. C. Smith.

†**Perry, Harold Arthur Dickins,** B.Sc. (Lond.), A.R.I.C. British. 43, Beech Terrace, Stowmarket. Research Chemist. *Signed by :* B. J. Balfe, W. H. Ferguson, J. J. Wark.

***Povah, Margaret,** B.Sc. (Lond.), London University Teachers' Diploma. British. 22, St. Alban's Crescent, Bournemouth. Assistant Mistress teaching Chemistry at Colston's Girls' School, Cheltenham Road, Bristol, 6. *Signed by :* E. E. Turner, Margaret M. Jamison, Edna D. Davidson.

†**Rack, George de Rome,** A.R.I.C. British. 32, Coniston Road, Newton Estate, Lancaster. Research Chemist (Industrial) Messrs. Jas. Williamson & Son, Ltd., Lune Mills, Lancaster. *Signed by :* J. C. Lawson, T. McQuillen, G. R. Gedye.

†**Reynolds, Edward Henry,** B.A., B.Sc. (Oxon), Diploma of Education (Oxon). British. 16, Lanercost Road, Tulse Hill, S.W. 2. Experimental Officer, Chemical Inspection Department, Ministry of Supply. *Signed by :* W. E. J. Field, D. Ll. Hammick, A. H. Coates.

†**Rohan, Terence Anthony,** B.Sc.Hons. (Glas.), A.R.I.C. British. c/o 32, Dale Park Avenue, Carshalton. Research Chemist with British Industrial Solvents Ltd. Part-time Post-Graduate Research Student at London University. *Signed by :* J. Kenyon, A. Houston, M. P. Balfe.

(a)**Royle, Alan Trevor,** B.Sc.Hons. (Manc.). British. 1, Longley Road, Worsley, Manchester. Works chemist. *Signed by :* M. G. T. Burrows, G. Ogden, H. F. Taylor.

***Stevens, Derrick John,** Inter.B.Sc. and Subsidiary Physics (Lond.). British. Connaught Hall, Wessex Lane, Swaythling. Chemistry Student, University College, Southampton. *Signed by :* S. H. Harper, Ishbel G. M. Campbell, N. K. Adam, H. W. B. Reed.

Stowers, John Marcus, M.A., M.B., B.Ch. (Cantab.), M.R.C.P. (Lond.). British. 27, Coolhurst Road, N. 8. Assistant, Medical Unit, University College Hospital, Gower Street, W.C. 1. *Signed by :* Charles E. Dent, S. W. Collins, R. Eryl Williams.

*Wall, **Robert Graham.** British. White Ness, Dowhills Drive, Blundellsands, Liverpool, 23. Honours Chemistry Student, Oxford University. *Signed by :* Ronald P. Bell, Hubert H. Chambers, D. Ll. Hammick.

Ward, Edwin George, 30 years laboratory experience in the City of London engaged in analysis and research in agricultural, food and industrial chemistry. Articles of apprenticeship with M. S. Salmon, B.Sc., 1915/1917. Served in R.N.A.S. as chemist, 1917/1919. British. 18, Elmstead Avenue, Wembley. Serving Officer (Captain). 4½ years Inspector of Messing By-Products, Western Command H.Q. *Signed by :* Osman Jones, A. C. Davall, W. M. Seaber.

*Woods, **John Colin,** M.Sc. (Manc.). British. 15, Whitmore Road, Fallowfield, Manchester, 14. Research Student at Manchester University. *Signed by :* F. S. Spring, A. E. Gillam, E. L. Hirst.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Avasare, Mahades Dattatraya,** B.A., M.Sc. (Bombay), Ph.D. (Lond.); Member, Industries Board, Baroda State; Chairman, Chemical Sub-Committee, Industries Board; Member, Advisory Board, Kalabhavan Technical Institute; Fellow, Indian Chemical Society; Post-graduate University Teacher, University of Bombay. Indian. Science Institute, Baroda College, Baroda. Professor of Chemistry and Head of the Department of Chemistry. *Signed by :* M. M. Parekh.

Gillespie, Donald Tom Chalton, M.Sc. (Adelaide), A.A.C.I., F.I.I.M. British. 22a, Sydare Avenue, East Malvern, S.E. 10, Victoria. Research Officer, Council for Scientific and Industrial Research. *Signed by :* A. Killen Macbeth, Frank L. Winzor.

‡**Nassim, Gertrude Labib,** M.Sc. (Fouad I University). Egyptian Colour and Chemical Factory, Abbassia, Cairo. Chemist and Geologist at the Egyptian Colour and Chemical Factory. Research student at Fouad I University for the Degree of Ph.D. *Signed by :* Wadie Tadros.

* Reduced annual subscription. † Three-body. (a) Junior Membership two-body.
‡ Two-body. (b) Junior Membership three-body.

PAPERS RECEIVED.

List of papers received between July 31st and August 20th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Asymmetric transformations with benzylmalonanilic acids." By EDNA M. DAVIDSON and E. E. TURNER.

"Absorption spectra of acridines. Part III. The hydroxyacridines." By A. Albert and L. N. Short.

"Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. Part III." By W. GERRARD.

"Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. Part IV." By W. GERRARD and M. J. RICHMOND.

"The comparative reactivity of the carbonyl groups in the thionaphthenquinones. Part II. The influence of substituent groups in the thionaphthenquinones." By C. E. DALGLIESH and F. G. MANN.

"The comparative reactivity of the carbonyl groups in the thionaphthenquinones. Part III. The influence of solvents and catalysts." By C. E. DALGLIESH and F. G. MANN.

"The comparative reactivity of the carbonyl groups in the thionaphthenquinones. Part IV. The action of chloramine-T on the thionaphthenquinones." By C. E. DALGLIESH and F. G. MANN.

"Some derivatives of 3-amino-quinoline." By G. R. CLEMO and G. A. SWAN.

"Geometrically isomeric piperazine derivatives containing two quaternary nitrogen atoms." By W. E. HANBY and H. N. RYDON.

"The application of the method of molecular rotation differences to steroids. Part I. Naturally occurring sterols and their simple derivatives." By D. H. R. BARTON.

"Esters containing phosphorus. Part II." By H. G. COOK, H. MCCOMBIE, and B. C. SAUNDERS.

"Carbohydrate phosphoric esters. Part I. The alkaline hydrolysis of α-methylglucopyranoside-6-phosphate, methylglucofuranoside-3-phosphates and *iso*-propylidene glucofuranose-3- and -6-phosphates." By E. E. PERCIVAL and E. G. V. PERCIVAL.

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TECHNOLOGY DEPT.

NOV 22 1945

September, 1945

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

IN LONDON (Burlington House).

Thursday, November 1st, 1945, at 5 p.m.

The following papers will be read and discussed:

"Mesohydric tautomerism." By L. Hunter.
"The sorption of condensable vapours by porous solids. Part III. Multimolecular adsorption. Part IV. Linear isothermals and the Langmuir equation." By A. G. Foster.
"Retention of asymmetry during the Beckmann, Lossen and Curtius changes." By A. Campbell and J. Kenyon.*

Thursday, December 6th, 1945, at 5 p.m.

Meeting for the reading of original papers. (Further particulars will be announced.)

OUTSIDE LONDON.

EDINBURGH.

Tuesday, November 27th, 1945, at 7 p.m.

Lecture, **The Structure and Chemistry of Metallic Crystals,** by Professor G. D. Preston, M.A., Sc.D., F.Inst.P.

Joint meeting with the University Chemical Society and the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Biochemical Lecture Theatre of the University, Teviot Place.

GLASGOW.

Friday, October 26th, 1945, at 3.30 p.m.

Lecture, **Long-Chain Molecules,** by Sir Robert H. Pickard, D.Sc., F.R.S.

Joint meeting with the Glasgow University Alchemists' Club and the Andersonian Chemical Society. To be held in the Large Lecture Theatre of the Chemistry Department, The University.

Friday, November 16th, 1945, at 7.15 p.m.

Lecture, **Polynucleotides and Nucleoproteins,** by Professor J. M. Gulland, D.Sc., F.R.S.

To be held in the Royal Technical College.

LEEDS.

Monday, November 26th, 1945, at 6.30 p.m.

Tilden Lecture, **Substitution,** by Professor E. D. Hughes, D.Sc., F.R.I.C.

To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, November 15th, 1945, at 4 p.m.

Lecture, **The Structure of the Boron Hydrides and Related Compounds,** by Mr. R. P. Bell, M.A., F.R.S.

To be held in the Muspratt Lecture Theatre of the University.

MANCHESTER.

Monday, October 29th, 1945, at 7 p.m.

Lecture, **The Publications of the Three Chartered Bodies,** by Mr. F. P. Dunn, B.Sc., F.R.I.C.

Joint meeting with the Royal Institute of Chemistry and Society of Chemical Industry to be held in the Engineers' Club, Albert Square.

* To read paper.

Friday, November 16th, 1945, at 6 p.m.

Meeting for the reading of original papers.

To be held in the Chemistry Lecture Theatre of the University.

Friday, December 7th, 1945, at 6 p.m.

Lecture by Professor J. M. Robertson, M.A., D.Sc., F.R.S.

Joint meeting with the local section of the Royal Institute of Chemistry, to be held in the Chemistry Lecture Theatre of the University. (Further details to be announced later.)

NORTH WALES.

Thursday, November 22nd, 1945, at 5.30 p.m.

Lecture, **Colchicine : its Chemistry and some Biological Effects,** by Professor J. W. Cook, D.Sc., F.R.S.

Joint meeting with the University College of North Wales Chemical Society, to be held in the Department of Chemistry at University College, Bangor.

NOTTINGHAM.

Friday, November 2nd, 1945, at 7 p.m.

Lecture, **Some Problems in the Chemistry of the Polysaccharides,** by Professor E. L. Hirst, M.A., D.Sc., F.R.S.

To be held in the Chemistry Lecture Theatre of University College.

Thursday, November 29th, 1945, at 4 p.m.

Lecture, **Structural Inorganic Chemistry,** by Professor W. Wardlaw, D.Sc., F.R.I.C.

Joint meeting with the University College Physical and Chemical Society, to be held in the Chemistry Lecture Theatre of University College.

SHEFFIELD.

Friday, October 26th, 1945, at 6 p.m.

Lecture, **Flame,** by Professor D. T. A. Townend, D.Sc.

Joint meeting with the South Yorkshire Section of the Royal Institute of Chemistry, to be held in the Chemistry Lecture Theatre of the University.

Friday, November 16th, 1945, at 5.30 p.m.

Lecture, **Our War Against Insect Pests,** by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

SOUTH WALES.

Monday, October 29th, 1945, at 6 p.m.

Lecture, **The Separation of Isotopes and Thermal Diffusion,** by Professor J. Kendall, D.Sc., F.R.S.

Joint meeting with Swansea University College Chemical Society, to be held in: he Chemistry Lecture Theatre of the University College, Swansea.

Wednesday, November 7th, 1945.

Lecture, **Research on Coal Tar,** by E. H. Coulson, M.A., D.Phil., M.Sc., and J. L. Jones, M.Sc., F.R.I.C., of the Chemical Research Laboratory, Department of Scientific and Industrial Research.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry, to be held at the Newport Technical College.

Friday, November 23rd, 1945, at 6.30 p.m.

Lecture, **Colchicine : its Chemistry and Some Biological Effects,** by Professor J. W. Cook, D.Sc., F.R.S.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held at University College, Cardiff.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Alfred George Ernest Foster	1912	July 26th, 1945.
Frederick William Freeman	1887	September 14th, 1941.
John Thomas Phillips	1932	August 4th, 1945.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Colonel R. B. Turbutt for a gift of £1 10*s*. and to Mr. T. McLachlan for a gift of £2, under Deed of Covenant, to the Publications Fund. Thanks were also conveyed to Genatosan, Limited, for a gift of £25, under Deed of Covenant, to the Library Fund.

LIBRARY.

The hours of opening of the Library are now as follows:

Monday to Friday, from 10 a.m. to 9 p.m.
Saturday, from 10 a.m. to 5 p.m.

RESEARCH FUND.

A meeting of the Research Fund Committee will be held in November next. All persons, therefore, who have received grants, and whose accounts have not been declared closed by the Council, are informed that reports must be received by the Society not later than November 1st, 1945.

Applications for Grants, to be made on forms obtainable from the General Secretary, must be received on or before November 1st, 1945. Applications from Fellows will receive prior consideration.

Attention is drawn to the fact that the income arising from the Donation of the Worshipful Company of Goldsmiths is principally devoted to the encouragement of research in Inorganic and Metallurgical Chemistry, and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and Allied Industries.

LOCAL REPRESENTATIVE FOR EIRE.

Professor T. S. Wheeler, Department of Chemistry, University College, Upper Merrion Street, Dublin, has accepted the invitation of the Council to act as Local Representative for Eire.

CONJOINT CHEMICAL OFFICE.

The address of the Conjoint Chemical Office has been changed from 6, Burlington Gardens, London, W. 1, to 9/10, Savile Row, London, W. 1. (Telephone No. REGent 2714.)

FELLOWSHIP.

The following 64 candidates have been elected Fellows of the Society:

Henry Ansbacher.
Mahades Dattatraya Avasare.
Heinz Carl Barany.
Desmond Arthur Sidney Barnes.
Frederick William Bernhardt.
Gordon Beswick.
Hugh Christiaan Beyerman.
David Elliott Butterfield.
Ng. Ph. Buu-Hoi.
Frank Clark.
Russell Neville Coleman.
George Charles Corbett.
Alfred Eric Corker.
Raymond Wilson Durham.
Donald Trevor Elmore.
Arthur Andrew Valentine Featherstone.
Hewitt Grenville Fletcher.
William Atkinson Forster.
Donald Tom Chalton Gillespie.
Mino Green.
Cyril Henry Greenstreet.
John Haslam.
William Arnold Hewson.
Richard Staples Higginbotham.
Willard Max Hoehn.
Peter John Jackson.
Norman William Krase.
Desmond Leighton.
Keith Frank Astell Linton.
Thomas Reginald Peter Maynard.
Alexander Bernard Meggy.
George Mooney.
George Alfred Morrison.
Gertrude Labib Nassim.
James Ritchie Park.
John Arthur Pegg.
Harold Arthur Dickins Perry.
Edward Bertram Pinniger.
Margaret Povah.
Gwyneth Audrey Powell.
Eleanor Mary Pridgeon.
Anthony John Richard Purssell.
George de Rome Rack.
Edward Henry Reynolds.
Terence Anthony Rohan.
Alan Trevor Royle.
Arthur Rushton.
John Dee Shapland.
Julian Ross Smith.
Thomas Arthur Soames.
Derrick John Stevens.
Harry Verdon Stopes-Roe.
John Marcus Stowers.
Helan Vivien Taylor.
Leo Harvey Thomas.
Aubrey Fiennes Trotman-Dickenson.
Thomas Truesdale.
Alfred Leonard Walby.
Robert Graham Wall.
Edwin George Ward.
Ernest Eric White.
Gareth Howel Williams.
Paul Hesbo Winsnes.
John Colin Woods.

NOTICE

50th ANNIVERSARY CELEBRATIONS OF THE DISCOVERY OF X RAYS

Preliminary Announcement

The Chemical Society is participating in the celebrations to commemorate the 50th anniversary of the discovery of X rays by Wilhelm Conrad Röntgen on November 8th, 1895.

These celebrations will take the form of a series of meetings to be held between November 8th and 10th of this year. The following is an outline of the programme being arranged; full details will be announced later :—

Thursday, November 8th.

Inaugural meetings at The Royal Society and Royal Society of Medicine.

Friday, November 9th.

Medical meetings at Royal Society of Medicine and Institution of Electrical Engineers.
At 4.0 p.m. Joint meeting of all Participating Societies.
Address, **The Scientific Consequences of Röntgen's Discovery of X Rays,** by Sir Lawrence Bragg, O.B.E., F.R.S.
Chairman: Sir Henry Dale, O.M., P.R.S.

Friday and Saturday, November 9th and 10th.

Scientific Meetings at the Royal Institution on **Applications of X Rays to Physics and Chemistry.**

Saturday, November 10th.

Historical Review meetings at the Institution of Electrical Engineers.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries within ten days of the date of publication of the* Journal *for September, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Dempster, John.** British. 24, Highburgh Drive, Burnside, Lanarkshire. 3rd Year Applied Chemistry Student, Royal Technical College, Glasgow. *Signed by :* A. B. Crawford, M. M. J. Sutherland, W. M. Cumming.

***Donovan, Bernard Thomas.** London University Matriculation. British. 82, Furley Road, Peckham, S.E. 15. Laboratory Assistant, Wellcome Laboratories of Tropical Medicine, Chemical Department, 183, Euston Road, N.W. 1. *Signed by :* W. H. Gray, K. S. Kirby, W. Solomon.

Dudley, Francis Barnett, B.Sc. (Melbourne). British. New England University College, Armidale, N.S.W., Australia. Lecturer in Chemistry at New England University College. *Signed by :* J. S. Anderson, E. J. Hartung, E. Heymann.

(b)**Fore, Harold,** B.Sc.Hons. (L'pool), A.R.I.C. British. 12, Ravenswood Avenue, Rock Ferry. Research Chemist. *Signed by :* C. N. Thompson, R. Brian Bentley, H. C. Evans.

***Foxon, Gordon Howard,** B.Sc.Hons. (Lond.). British. c/o 27, Park Road, Stockton-on-Tees. Research Chemist, Imperial Chemical Industries, Ltd., Billingham Division, Billingham, Co. Durham. *Signed by :* M. P. Applebey, J. W. Donaldson, E. Kenefec.

‡**Hall, Norah,** B.Sc. (Dun.), N.D.D. British. Laboratory Department, Tyne Brand Products, North Shields. Works Chemist. *Signed by :* P. L. Robinson, Wesley Cocker, H. L. Riley.

(a)**Hunter, Robert Theodore.** British. 11, Kingsgate Terrace, Hexham, Northumberland. Student. *Signed by :* Richard Raper, Wesley Cocker, G. A. Swan.

†**Lovering, Philip Edward,** B.Sc. (Lond.), A.R.I.C. British. 45, Christchurch Road, Streatham, S.W. 2. Research Chemist. *Signed by :* C. H. R. Gentry, D. F. Rushman, M. L. Smith.

***McGowan, John Main.** British. Morriston Farm, Cambuslang, Glasgow. Applied Chemistry Student, Royal Technical College, Glasgow. *Signed by :* A. B. Crawford, W. M. Cumming, M. M. J. Sutherland.

***Mackie, Margaret McCowan Stewart.** British. c/o Stewart, 25, Steven Street, Glasgow, C. 4. Applied Chemistry Student, Royal Technical College, Glasgow. *Signed by :* A. B. Crawford, W. M. Cumming, M. M. J. Sutherland.

Mulholland, Thomas Patrick Cunningham, M.Sc. (Manc.). British. Bowlfield, Gee Cross, Hyde. Research Student, Manchester University. *Signed by :* F. S. Spring, T. H. H. Quibell, A. E. Gillam.

Paterson, John Young Fraser. British. 1, Barony Place, Edinburgh, 3. Student, Department of Chemistry, Edinburgh University. *Signed by :* E. G. V. Percival, Neil Campbell, J. A. V. Butler.

Popper, Felix, B.Sc.Hons. (Lond.). Austrian. 2, Clarendon Crescent, Eccles, Manchester. Chemist, Manchester Oil Refinery, Ltd. *Signed by :* H. S. Boyd-Barrett, D. Parker, Isaac Goodman.

†**Rankin, Irvine Giles,** B.Sc.Hons. (Lond.), Ph.C., A.R.I.C., D.B.A. British. 39, Bramley Road, N. Kensington, W. 10. Principal (retiring September, 1945), London College of Pharmacy, 361, Clapham Road, S.W. 9. *Signed by :* Herbert E. Blayden, H. L. Riley, H. Humphreys Jones.

†**Ransom, James Charles Cyril,** B.Sc.Hons. (Leeds), A.R.I.C. British. c/o Brotherton's Chemical Works, Cattells Grove, Nechells, Birmingham, 7. Sulphuric Acid Plant Superintendent and Research Worker. *Signed by :* H. J. Hodsman, H. Burton, G. McLeavy.

(b)**Seavell, Albert John,** B.Sc. (L'pool). British. Thorncroft Bungalow, Mill Lane, Willaston, Wirral. Chemist, Tate and Lyle, Ltd. *Signed by :* A. McGookin, H. M. Thompson, D. B. Taylor.

Stephenson, Oliver, B.Sc.Hons. and Ph.D. (Dun.). British. 444, Devizes Road, Salisbury. Research Chemist. *Signed by :* W. A. Waters, G. H. Christie, C. W. Gibby.

Watson, Guy Harold Ralph. Work has been completed for Hons. B.A. (Cantab.) which will be taken next June (Natural Science Tripos Part II, Class II, 1945). British. Memorial Court, Clare College, Cambridge. Research Student in Organic Chemistry at the University Chemical Laboratory, Cambridge. *Signed by :* B. C. Saunders, F. L. M. Pattison, N. B. Chapman.

†**Weeks, Geoffrey Albert,** B.A., B.Sc. (Oxon), A.R.I.C. British. Fir Croft, Combs Road, Chapel-en-le-Frith, Stockport. Research Chemist, Ferodo, Ltd., Chapel-en-le-Frith, Stockport. *Signed by :* S. G. P. Plant, J. C. Smith, A. F. Childs.

†**Williams, Edward Arthur,** B.Sc. (Birm.), A.R.I.C. British. 7, Millfield Road, North Walsham, Norfolk. Chemist, Norfolk Canneries, Ltd., North Walsham, Norfolk. *Signed by :* R. H. Hopkins, Alfred D. Norris, Denis Dickinson.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Kapur, Narinder Singh, B.Sc., Final Year Student B.Sc.Hons. Chemistry. Indian. R. B. Narshing Dass Street, Near Kucha Peshawarian, Sutar Mandi, Lahore, India. Student, Punjab University Institute of Chemistry, Lahore. *Signed by :* S. S. Bhatnagar.

Mills, John Archer, M.Sc. (Adelaide), five years' post-graduate research in Organic Chemistry. British. 6, Albert Street, Hyde Park, S. Australia. Research Assistant in Chemistry Department, University of Adelaide. *Signed by :* A. Killen Macbeth, Frank L. Winzor.

(a)**Mosby, William Lindsay,** B.Sc. (Harvard), 1–2 years various types research. American. 2209, Clinton Place, Rockford, Illinois, U.S.A. Chemical Warfare Service, A.U.S. *Signed by :* R. P. Linstead.

* Reduced annual subscription
† Three-body.
‡ Two-body.
(a) Junior Membership two-body.
(b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between August 21st and September 14th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The heterogeneous acid and acid-salt hydrolysis of secondary cellulose acetate." By R. N. Haward and T. White.

"Observations on the purification and resolution of *rac*-adrenaline." By S. Pickholz.

"The synthesis of cardiazole (pentamethylenetetrazole) by the action of hydrazoic acid on *cyclo*-hexanone." By N. B. Chapman, H. McCombie, and B. C. Saunders.

"The enzymic synthesis and degradation of starch. Part I. The synthesis of amylopectin." By E. J. Bourne and S. Peat.

"The enzymic synthesis and degradation of starch. Part II. The amylolytic function of the Q-enzyme of the potato." By E. J. Bourne, A. Macey, and S. Peat.

"Some pyridine and quinoline derivatives." By V. A. Petrow.

"Reactions of thermochromic ethylenes." By A. Schönberg, A. F. A. Ismail, and (in part) (Miss) W. Asker.

"Electrometric titrations of weak acids and bases in aqueous solution." By D. O. Jordan and H. F. W. Taylor.

"Mechanism of substitution at a saturated carbon atom. Part XXVI. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section A) Introductory remarks and a kinetic study of the reactions of methyl, ethyl, *n*-propyl, *iso*butyl, and neopentyl bromides with sodium ethoxide in dry ethyl alcohol." By I. Dostrovsky and E. D. Hughes.

"Mechanism of substitution at a saturated carbon atom. Part XXVII. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section B) A comparison of the rates of reaction of ethyl and neopentyl bromides with inorganic iodides in acetone solution." By I. Dostrovsky and E. D. Hughes.

"Mechanism of substitution at a saturated carbon atom. Part XXVIII. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section C) A comparison of the rates of reaction of methyl, ethyl, *n*-propyl, *iso*butyl, and neopentyl bromides with aqueous ethyl alcohol." By I. DOSTROVSKY and E. D. HUGHES.

"Mechanism of substitution at a saturated carbon atom. Part XXIX. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section D) The mechanism of the reaction of neopentyl bromide with aqueous ethyl alcohol." By I. DOSTROVSKY and E. D. HUGHES.

"Mechanism of substitution at a saturated carbon atom. Part XXX. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section E) A comparison of the rates of reaction of methyl, ethyl, *n*-propyl, *iso*butyl, and neopentyl halides with silver nitrate in aqueous ethyl alcohol." By I. DOSTROVSKY and E. D. HUGHES.

"Mechanism of substitution at a saturated carbon atom. Part XXXI. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section F) A comparison of the rates of reaction of methyl, ethyl, *n*-propyl, and neopentyl bromides with wet formic acid." By I. DOSTROVSKY and E. D. HUGHES.

"Mechanism of substitution at a saturated carbon atom. Part XXXII. The relationship of reactivity to mechanism in the reactions of neopentyl and other alkyl compounds. (Section G) Steric hindrance in nucleophilic substitution. The Wagner rearrangement in relation to unimolecular substitution and elimination." By I. DOSTROVSKY, E. D. HUGHES, and C. K. INGOLD.

"Retention of asymmetry during the Beckmann, Lossen, and Curtius changes." By A. CAMPBELL and J. KENYON.

"Some pyridyl analogues of triphenylmethane." By H. J. KAHN and V. A. PETROW. With a Note by R. WIEN and J. HARRISON.

"The kinetics of halogen addition to unsaturated compounds. Part VIII. αβ Unsaturated aldehydes." By P. B. D. DE LA MARE and P. W. ROBERTSON.

"The kinetics of halogen addition to unsaturated compounds. Part IX. Nitrocinnamic acids." By I. HARTMAN and P. W. ROBERTSON.

"Esters containing phosphorus. Part III. Dialkyl iodophosphates." By H. MCCOMBIE, B. C. SAUNDERS, and G. J. STACEY.

"Acridine syntheses and reactions. Part III. The dechlorination of 5-chloroacridines. A new synthesis of acridine." By A. ALBERT and J. B. WILLIS.

"Experiments in the piperidine series. Part II." By R. M. ANKER, A. H. COOK, and I. M. HEILBRON.

"Some aryl bis-β-amidinoethyl ethers." By A. H. COOK and K. J. REED.

"Some sulphanilamidobenzonitriles and related compounds." By A. H. COOK, I. M. HEILBRON, K. J. REED, and M. N. STRACHAN.

"Rare-earth metal oxides. Part I. The direct oxidation of praseodymium and terbium sesquioxides." By J. K. MARSH.

"Rare-earth metal oxides. Part II. A new study of oxide precipitation by nitrate fusion." By J. K. MARSH.

"Rare-earth metal oxides. Part III. Their precipitation from potassium hydroxide melts." By J. K. MARSH.

"The molecular volumes and parachors of the mercuric halides. Part II. Mercuric iodide, internal pressures and other relations." By E. B. R. PRIDEAUX and J. R. JARRATT.

"Preparation of carbamyl fluorides by the action of anhydrous hydrogen fluoride on *iso*cyanates." By G. D. BUCKLEY, H. A. PIGGOTT, and A. J. E. WELCH.

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October, 1945

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (Burlington House).

Thursday, December 6th, 1945, at 5 p.m.

The following papers will be read and discussed:

"The constitution of *pseudo*-santonin. Part I." By G. R. Clemo and Wesley Cocker.
"The constitution of *pseudo*-santonin. Part II. The preparation of certain dimethyl naphthols." By Wesley Cocker.
"Experiments in the piperidine series. Part I." By A. H. Cook * and K. J. Reed.
"Part II." By R. M. Anker, A. H. Cook,* and I. M. Heilbron.
"Part III." By R. M. Anker and A. H. Cook.*
"Structure of compounds of ferrocyanide type. Part I. Crystal structure of hexamethylisonitrilo ferrous chloride." By H. M. Powell * and G. W. R. Bartindale.

EDINBURGH.

Tuesday, November 27th, 1945, at 7 p.m.

Lecture, **The Structure and Chemistry of Metallic Crystals,** by Professor G. D. Preston, M.A., Sc.D., F.Inst.P.

Joint meeting with the University Chemical Society and the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Biochemical Lecture Theatre of the University, Teviot Place.

EXETER.

Friday, November 30th, 1945, at 4.30 p.m.

Lecture, **The Physical Chemistry of Powders and Fine Structured Solids,** by D. H. Bangham, M.C., M.A., D.Sc.

To be held in the Washington Singer Laboratories, Prince of Wales Road, Exeter.

GLASGOW.

Friday, November 16th, 1945, at 7.15 p.m.

Lecture, **Polynucleotides and Nucleoproteins,** by Professor J. M. Gulland, D.Sc., F.R.S.

To be held in the Royal Technical College.

LEEDS.

Monday, November 26th, 1945, at 6.30 p.m.

Tilden Lecture, **Substitution,** by Professor E. D. Hughes, D.Sc., F.R.I.C.

To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, November 15th, 1945, at 5 p.m.

Lecture, **The Structure of the Boron Hydrides and Related Compounds,** by R. P. Bell, M.A., F.R.S.

To be held in the Muspratt Lecture Theatre of the University.

* To read paper.

MANCHESTER.

Friday, November 16th, 1945, at 6 p.m.

Meeting for the reading of the following papers:

"The heats of polymerisation of acrylic acid, methacrylic acid, and methyl methacrylate." By A. G. Evans and E. Tyrral.

"Some reactions in the sulphanilamide series: (*a*) Guanidine derivatives." By S. Birtwell, E. Haworth, S. L. Rose, G. Swain, and C. H. Vasey. (*b*) "Pyrimidine derivatives." By S. L. Rose and G. Swain.

"New methods for end-group determination in polysaccharides." By F. Brown, Miss S. Dunstan, T. G. Halsall, E. L. Hirst, and J. K. N. Jones.

To be held in the Chemistry Lecture Theatre of the University.

Friday, December 7th, 1945, at 6 p.m.

Lecture, **The Principles of Crystal Analysis,** by Professor J. M. Robertson, M.A., D.Sc., F.R.S.

Joint meeting with the local section of the Royal Institute of Chemistry, to be held in the Chemistry Lecture Theatre of the University.

NORTH WALES.

Thursday, November 22nd, 1945, at 5.30 p.m.

Lecture, **Colchicine: its Chemistry and Some Biological Effects,** by Professor J. W. Cook, D.Sc., F.R.S.

Joint meeting with the University College of North Wales Chemical Society, to be held in the Department of Chemistry at University College, Bangor.

NOTTINGHAM.

Thursday, November 29th, 1945, at 4 p.m.

Lecture, **Structural Inorganic Chemistry**, by Professor W. Wardlaw, D.Sc., F.R.I.C.

Joint meeting with the University College Physical and Chemical Society, to be held in the Chemistry Lecture Theatre of University College.

SHEFFIELD.

Friday, November 16th, 1945, at 5.30 p.m.

Lecture, **Our War Against Insect Pests,** by Professor I. M. Heilbron, D.S.O., D.Sc., F.R.S.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

SOUTH WALES.

Wednesday, November 7th, 1945.

Lecture, **Research on Coal Tar,** by E. H. Coulson, M.A., D.Phil., M.Sc., and J. L. Jones, M.Sc., F.R.I.C., of the Chemical Research Laboratory, Department of Scientific and Industrial Research.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry, to be held at the Newport Technical College.

Friday, November 23rd, 1945, at 6.30 p.m.

Lecture, **Colchicine: its Chemistry and Some Biological Effects,** by Professor J. W. Cook, D.Sc., F.R.S.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry. To be held at University College, Cardiff.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, October 4th, 1945, at 5 p.m.

The President, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair and welcomed the visitors present.

MINUTES.

The Minutes of the Annual General Meeting held on April 19th and of the Scientific Meeting held on May 17th were taken as read and were signed.

DR. CLARENCE SMITH.

The Meeting stood whilst the President read the following resolution :

" The Council have learned with profound regret of the death on June 28th of Dr. Clarence Smith, Editor of the Society's *Journal* since January, 1924. He was appointed Assistant Editor to the Society in 1921 and Joint Editor in 1923.

Dr. Clarence Smith had a wide knowledge of Chemistry and he was a master of literary English. These gifts he placed freely at the disposal of the Society to our great benefit, and in doing so he maintained the high standard of our publications. Dr. Smith gained a world-wide reputation by reason of his expert knowledge of nomenclature, and this has been of inestimable value not only to the Society, but to the whole of the science of Chemistry.

Dr. Smith's death will be keenly lamented by the Fellows of the Society and especially so by those who have contributed during the past 24 years to its publications.

The Council desire to place on record their high appreciation of the great services Dr. Smith has rendered to the Society during his period of office, and they send their deep sympathy to his son and daughter in their bereavement."

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society : A. J. Turnbull, H. Gomberg, Miss G. M. Owen, C. F. Buckley, H. V. Stopes-Roe, M. Green, H. Robinson, R. J. Loneragan, A. E. Judd, W. J. Wyse, F. W. Bernhardt, A. L. Beattie, Miss J. M. Currington, J. E. McKail, G. V. Riberstein, W. Clamp, D. D. Lord, P. J. Pengilly, A. Gellman, P. F. Timson.

LECTURE.

After a brief introduction the President called on Dr. U. R. Evans to deliver his Lecture entitled " Recent Work on Corrosion and Oxidation Reactions."

At the conclusion of the Lecture, a vote of thanks to the Lecturer, proposed by Dr. W. H. J. Vernon, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows :

	Elected.	Died.
Harold Joseph Clarke Mathews (Burnley)	Dec. 1st, 1904.	Sept. 9th, 1945.
Sir David Milne Watson (Dorset)	June 4th, 1931.	Oct. 3rd, 1945.
Laurence Christopher Panting (Truro)	May 4th, 1889.	May 4th, 1945.
Professor Robert Wallace (Fife)	June 4th, 1885.	Jan., 1939.

PRESENTATION TO MR. S. E. CARR.

It has been suggested that many Fellows of the Society would welcome an opportunity of contributing to a presentation to Mr. S. E. Carr on his retirement from the office of General Secretary after forty-two years of service. The Council decided to invite contributions of not more than ten shillings from Fellows and friends. The nature and date of the presentation will be decided at a later date and notified to contributors.

Contributions should be sent, not later than January 31st, 1946, to Dr. D. C. Martin, General Secretary, at Burlington House, W. 1. Fellows desirous of paying through a bank should cross cheques "S. E. Carr Fund."

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to the Association of British Chemical Manufacturers for a gift of £100 under Deed of Covenant, and to Major D. T. Coomber, Dr. S. W. Smith, and Mr. L. S. Theobald for gifts of publications.

ANNUAL REPORTS.

The Council of the Society has decided to change the policy in respect of the *Annual Reports on the Progress of Chemistry*.

It is proposed that, commencing in 1947, a series of reports will be issued in quarterly numbers of approximately 120 pages and in a format similar to that of the *Journal*. The character of the reports will be such as to include:

(1) General reviews of selected topics, the selections to be in accordance with an approved pre-arranged list covering a period of years.

(2) Once annually, a brief general review of the progress of the main branches of chemistry during the year.

(3) Reviews submitted spontaneously by authors. It is intended that these will be submitted either as finished articles or preferably as projects which the Publication Committee may encourage, or in special cases may accept in advance. In this way, it is hoped, that authors will be encouraged to put their best work into surveys of subjects which interest them and that their contributions will have value as original essays besides being surveys.

It is proposed that the *Annual Reports* should continue on the present basis to include 1946, so that in 1947 the *Annual Reports* for 1946 will appear together with the first series of the new quarterly reports bearing the date of the current year, thereby preserving continuity in the serial numbers.

105TH ANNUAL GENERAL MEETING.

The Council has agreed to a proposal to hold the 105th Annual General Meeting in Birmingham on April 25th, 1946.

BUREAU OF ABSTRACTS.

The address of the Bureau of Abstracts has been changed from 56 Victoria Street, S.W. 1, to 9/10 Savile Row, London, W. 1. (Telephone No. REGent 2714.)

NATIONAL COMMITTEE FOR CHEMISTRY.

The President and Professor I. M. Heilbron have agreed to serve as the Society's representatives on the National Committee for Chemistry of the Royal Society in place of Professor C. W. Davies and Mr. F. P. Dunn who are due to retire on December 31st, 1945.

ASSOCIATION FRANCAISE POUR L'AVANCEMENT DES SCIENCES.

Professor F. Joliot, an Honorary Fellow of the Society, represented the Society at the Congrés de la Victoire in Paris on October 20th to 26th, 1945.

BRITISH STANDARD SPECIFICATIONS.

The following drafts of British Standard Specifications have been received for technical comment:

CH(C) 1801 Third draft of British Standard Specification for Wash-out pipettes.
CH(C) 1880 Third draft for Part 3 of British Standard Specification for Burettes No. 846—1939.

These have been placed in the library and Fellows wishing to make technical comments on them are requested to do so before December 13th, 1945, to the British Standards Institution, 28 Victoria Street, Westminster, London, S.W. 1.

NOTICE

50TH ANNIVERSARY CELEBRATIONS OF THE DISCOVERY OF X-RAYS

As already announced, the Chemical Society is participating in the celebrations to commemorate the 50th Anniversary of the discovery of X-rays by Wilhelm Conrad Röntgen on November 8th, 1895.

These celebrations will take the form of a series of meetings and a small exhibition of historical items of interest.

The following is an outline of the programme which has been arranged, details being given of those meetings which are likely to be of interest to Fellows of the Society. Full details of the complete programme of meetings are displayed on the Society's Notice Board and may be obtained by interested Fellows on request from the General Secretary.

Thursday, November 8th.

The Celebrations will begin by Inaugural meetings to be held at the Royal Society on Thursday, November 8th, at 11.30 a.m., and at the Royal Society of Medicine at 4.30 p.m. and 8 p.m. The Minister of Health, the Rt. Hon. Aneurin Bevan, M.P., will be the guest at the afternoon meeting at the Royal Society of Medicine when short addresses on medical aspects of X-rays will be delivered. Attendance at the meeting at the Royal Society and the evening meeting at the Royal Society of Medicine will be by invitation only.

Friday, November 9th.

A joint meeting of all the participating Societies will take place at 3.30 p.m. in the Phœnix Theatre, Charing Cross Road, W.C. 2, when Sir Henry Dale, O.M., P.R.S., will be the Chairman and Sir Lawrance Bragg, O.B.E., F.R.S., will deliver an address entitled **The Scientific Consequences of Röntgen's Discovery of X-Rays**. Further details will be announced in the technical press and elsewhere.

From 10 a.m. to 1 p.m. the first of two scientific meetings dealing with **The Application of X-rays to Physics and Chemistry** will be held at the Royal Institution under the Chairmanship of Professor P. P. Ewald, when the following papers will be given:

(*a*) **The Development of X-ray Tubes.** S. Goldztaub, D.-és-Sc. (Paris).
(*b*) **Some Scientific Aspects of Radiography.** F. I. G. Rawlins, M.Sc.
(*c*) **Application of X-ray Spectroscopy.** Mlle. Y. Cauchois, D.-és-Sc. (Paris).
(*d*) **Dynamic X-ray Theory.** M. Born, F.R.S.
(*e*) **Amorphous Substances.** J. T. Randall, D.Sc.
(*f*) **Fibrous Substances.** W. T. Astbury, Sc.D., F.R.S.

Meetings dealing with Medical X-ray Applications in Medicine will also be held at 10 a.m. and 11.30 a.m. at the Royal Society of Medicine.

Saturday, November 10th.

From 10 a.m. to 1 p.m. the second scientific meeting will be held at the Royal Institution under the Chairmanship of Sir Lawrence Bragg, O.B.E., F.R.S., when the following papers will be given:

(*a*) **Metal Structures.** H. Lipson, D.Sc.
(*b*) **Minerals.** W. H. Taylor, D.Sc.
(*c*) **Crystal Chemistry.** A. F. Wells, Ph.D.
(*d*) **X-rays and Geochemistry.** V. M. Goldschmidt, For.Mem.R.S.
(*e*) **Organic Structures.** J. M. Robertson, D.Sc., F.R.S., and Mrs. D. Hodgkin, Ph.D.

At 2 p.m. there will be a Medical meeting at the Institution of Electrical Engineers and this will be followed by a short series of Historical Review meetings under the Chairmanship of P. Dunsheath, O.B.E., D.Sc., President of the Institute of Electrical Engineers as follows:

3.30—5 p.m. (*a*) **The Development of Electrical X-ray Equipment.** Clifford C. Paterson, O.B.E., D.Sc., F.R.S.
(*b*) **The Evolution of X-ray Photographic Materials.** H. Baines, D.Sc.

5—6 p.m. Tea.

6—7.30 p.m. (*c*) **Industrial X-ray Analysis, Past and Present.** H. P. Rooksby.
(*d*) **The Growth of Industrial Radiology.** W. J. Wiltshire.

There will be a small exhibition of historical items of interest in the Reid Knox Hall of the British Institute of Radiology, 32 Welbeck Street, London, W. 1, on the 8th, 9th, and 10th November, open from 10 a.m. to 6 p.m.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before November 30th, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

†**Albericci, Victor John,** M.Sc. (N.U.I.), A.R.I.C. Irish. Lewis Road, Killarney, Co. Kerry. Chemist in the State Laboratory, Dublin. *Signed by :* A. G. G. Leonard, T. S. Wheeler, Vincent C. Barry.

†**Allen, Charles Dudley,** B.A.Hons. and B.Sc.Hons. British. c/o Grindley & Co., Bombay. Major R.I.A.S.C. Analytical Chemist. *Signed by :* Eric T. Murdock, H. J. T. Ellingham, Alex Findlay.

Aspinall, Gerald Oliver, B.Sc.Hons. (Bristol). British. 6, Hughenden Road, Clifton, Bristol, 8. Post-graduate research at the University of Bristol. *Signed by :* E. B. Maxted, W. Baker, T. Malkin.

(a)**Bernstein, Peter John,** B.Sc.(Lond.). Hungarian. 10, Kenners Dene, Tynemouth. Works Chemist, in charge of production and research at the Tyne Chemical Co., Ltd., Pilot Street, South Shields. *Signed by :* Wesley Cocker, Richard Raper, G. A. Swan.

†**Collie, William MacRoe,** B.Sc.Hons. (L'pool). British. 22, Hill Road, Claughton, Birkenhead. Chemist in soup department of J. Bibby and Sons, Ltd., Great Howard Street, Liverpool. *Signed by :* A. McGookin, R. O. Griffith, T. P. Hilditch.

†**Colson, Albert Francis,** B.Sc.Hons. (Lond.), F.R.I.C. British. Tythebarn Farm, Mobberley, Knutsford. Chief microanalytical chemist, I.C.I. (Alkali Division), Winnington, Northwich. *Signed by :* J. Haslam, E. A. Cooke, J. Ferguson.

‡**Curtis, Albert Bertram.** London University Matriculation, 3 years biological research (Cambridge). British. 6, Ludgate Circus Buildings, E.C.4. Manufacturing, analytical, pharmaceuticals and cosmetics. *Signed by :* Robt. E. Goldsbrough, M. Briscoe, David J. Evans.

†**Garvie, William Macgregor,** M.Sc.Tech. and Ph.D. (Manc.), A.R.I.C. British. 22, Haydon Road, Didcot, Berks. Chemist, Chemical Inspection Department, Ministry of Supply. *Signed by :* R. G. Monk, L. Airey, A. S. Nickelson.

†**Graham, Joseph Ivon,** M.A. (Cantab.), M.Sc. (Lond.), F.R.I.C. British. Byfield, Maiden Erlegh Drive, Reading. Director, Mining Research Laboratory, British Colliery Owners Research Association, Royal School of Mines, South Kensington, S.W. 7. *Signed by :* R. Lessing, Wm. Wardlaw, J. G. King.

†**Henderson, James Alexander,** Inter.B.Sc., A.R.I.C. British. 9, Wildwood Avenue, Mount Pleasant Lane, Bricket Wood, Watford. Organic Research Chemist, c/o Trinidad Leaseholds, Trinidad, B.W.I. *Signed by :* J. C. Crocker, F. H. Lowe, H. J. T. Ellingham.

‡**Hunter, Andrew.** British. Messrs. Wheta, Ltd., 1—7, Calvin Street, Belfast. Managing Director. *Signed by :* Leslie H. Lampitt, E. B. Hughes, F. P. Dunn.

†**Kirkbride, Walter,** A.R.I.C. British. 24, Brownberrie Walk, Horsforth, nr. Leeds. Departmental Manager at Messrs. Wood and Bedford, Branch of the Yorkshire Dyeware & Chemical Co., Ltd. *Signed by :* Arnold T. Peters, of Ralph C. Storey, S. G. A. Wise.

†**Kressman, Theodore Roger Ernest,** B.Sc. (Lond.), A.R.I.C. British. 15, Wellesley Road, Strawberry Hill, Middx. Chief Research Chemist Permutit Co., W. 4. *Signed by :* E. I. Akeroyd, H. J. T. Ellingham, R. Leslie Collett.

***Longuet-Higgins, Hugh Christopher,** B.A. (Oxon). British. Balliol College, Oxford. Research Student in Chemistry. *Signed by :* Ronald P. Bell, W. C. E. Higginson, L. W. Grimke Drayton.

***Malan, David Huntingford,** B.A. (Oxon). British. Parker's Close, Hartley Wintney. Research organic chemist for Courtaulds, Ltd. *Signed by :* R. C. G. Moggridge, C. H. Bamford, Harry Irving.

(a)**Moss, Nathan,** B.Sc. (Lond.). British. 2, Glen Eyre Close, Bassett, Southampton. Research Chemist for Ministry of Supply, C.D.E.S., Porton. *Signed by :* S. H. Harper, Ishbel G. M. Campbell, N. K. Adam.

†**Myles, Donald,** A.R.I.C. British. 59, Parrin Lane, Monton, nr. Manchester. Experimental Officer, Chemical Inspection Department, Ministry of Supply. *Signed by :* G. L. Wathen, J. Agnew, M. J. Thornton.

Patek, John Charles, B.A.Hons. (Cantab.). Czech. 24, Gt. King Street, Edinburgh, 3. Analytical Chemist in the Laboratories of Messrs. Torbet Lactic Oat Co., Ltd., Gt. King Street, Edinburgh, 3. *Signed by :* E. G. V. Percival, Eric T. Dewar, T. R. Bolam.

***Scurfield, Gordon,** B.Sc.Hons. (Sheffield). British. 19, Springwell Terrace, Hetton-le-Hole, Co. Durham. Assistant Plant Physiologist, Hosa Cancer Research Laboratories. *Signed by :* Brynmor Jones, R. D. Haworth, E. Gertrude Turner.

Sholl, Donald Arthur, B.Sc. (Lond.). British. City of London Freemen's School, Ashtead Park, Surrey. Senior Science Master. *Signed by :* Thomas Turner, W. G. Aston, Eric S. Gyngell.

Sos, Feodora Lea, Ph.D. (Budapest). Teaching diploma. Hungarian, 3, Upton Park, Slough. Research Chemist, Messrs. Smith and Shaw, 11, Cavendish Place, W. 1. *Signed by :* H. G. Emblem, J. E. Hackford, Denis E. B. Greensmith.

(a)**Taylor, Alan Scott.** British. 34, Bedford Terrace, Billingham. Final Honours Chemistry Student, King's College, Newcastle-on-Tyne. *Signed by :* Richard Raper, Joseph Weiss, G. R. Clemo.

‡**Watson, Cyril James,** B.S.A. (McGill), M.S. and Ph.D. (Cornell). British. Division of Chemistry, Department of Agriculture, Central Experimental Farm, Ottawa, Ont. Chemist, Dominion Experimental Farm, Department of Agriculture, Ottawa. *Signed by :* C. H. Robinson, A. Linton Davidson, J. Dick.

(b)**Wickham, Kenneth Alan,** Inter.B.Sc. British. 39, Smitham Downs Road, Purley. Research Chemist, British Coal Utilisation Research Association. *Signed by :* Maurice H. Pearson, E. S. Stockton, Ronald H. Smith.

†**Woollatt, Edgar,** B.Sc.Hons. (Lond.), A.M.I.Chem.E., Ramsay Diploma in Chemical Engineering. British. 10, Woodfield Road, Bebington. Chemical Engineer. *Signed by :* Percy N. Williams, B. D. W. Luff, W. H. C. Simmonds.

†**Worden, Alastair Norman,** B.A. (Cantab.), B.Sc. (Lond.), A.R.I.C., M.R.C.V.S. British. University College of Wales, Aberystwyth. Milford Professor of Animal Health, University College of Wales, Aberystwyth. *Signed by :* C. W. Davies, J. B. Bowen, Kurt Heller.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

‡**Biermans, Jean,** Ingenieur Tech.Ind.Chim. (Institut Meurice-Chimie, Belgium). Belgian. 5, Rue Maelbeek, Dilbeek, Belgium. Managing Director at the "Usines Robert Houben" (Dilbeek). *Signed by :* L. Flamache, F. Meunier.

Mund, Walter Emile Marie, D.Sc. (Louvain). Belgian. 32, Rue de Beriot, Louvain, Belgium. Professor Physical Chemistry in the University of Louvain. *Signed by :* F. G. Donnan.

Schepman, Felix Robert, Nat. Phil. Cond. (Univ. Groningen, Holland), Dutch. Stadionkade 81^{II}, Amsterdam (Z), Holland. Student, University of Amsterdam and Research worker at "Werkspoor M.V." Amsterdam. *Signed by :* J. P. Wibaut.

Wilson, Thomas Henry. British. 10, Ardmore Road, Herne Bay, Auckland, New Zealand. Senior Assistant Analyst. *Signed by :* Alf. J. Parker.

* Reduced annual subscription.
† Three-body.
‡ Two-body.
(a) Junior Membership two-body.
(b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between September 15th and October 4th, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.

"The course of autoxidation reactions in poly*iso*prenes and allied compounds. Part X. Peroxidation of methyl elæostearate." By A. SUNDRALINGAM.

"The preparation of 7-hydroxy-2-aminofluorene." By F. GOULDEN and G. A. R. KON.

"The ternary systems $NaSCN–Ca(SCN)_2–H_2O$, $KSCN–Ca(SCN)_2–H_2O$, $NH_4SCN–Ca(SCN)_2–H_2O$ and $Ca(SCN)_2–AgSCN–H_2O$ at 25°." By A. K. MCKERROW, V. J. OCCLESHAW, and (in part) F. DRABBLE.

"Researches on acetylenic compounds. Part I. The preparation of acetylenic ketones by oxidation of acetylenic carbinols and glycols." By K. BOWDEN, I. M. HEILBRON, E. R. H. JONES, and B. C. L. WEEDON.

"Researches on acetylenic compounds. Part II. (A) The addition of amines to ethynyl ketones. (B) Auxochromic properties and conjugating power of the amino group." By K. BOWDEN, E. A. BRAUDE, E. R. H. JONES, and B. C. L. WEEDON.

"Researches on acetylenic compounds. Part III. Diene additions to ethynyl ketones." By K. BOWDEN and E. R. H. JONES.

"Researches on acetylenic compounds. Part IV. The hydration of some acetylenyl-carbinols derived from $\alpha\beta$-unsaturated aldehydes." By I. M. HEILBRON, E. R. H. JONES, P. SMITH, and B. C. L. WEEDON.

"Studies in the polyene series. Part XXII. Condensations between propargyl methyl ether and $\alpha\beta$-unsaturated carbonyl compounds." By I. M. HEILBRON, E. R. H. JONES, and R. N. LACEY.

"Sulphur derivatives of thiazoles." By E. M. GIBBS and F. A. ROBINSON.

"New naphthalene compounds structurally related to stilbœstrol." By B. J. F. HUDSON.

"*p*-Aminobenzenesulphonamide derivatives of pyrimidine. Preparation as antibacterial agents." By F. L. ROSE and G. A. P. TUEY.

"The acetone derivatives of hexahydric alcohols. Part I. Triacetone mannitol and its conversion into *d*-arabinose." By L. F. WIGGINS.

"The preparation of ω-ethyl-ω-*n*-decyl-ω-*n*-dodecylacetophenone and related substances." By C. L. CARTER and S. N. SLATER.

LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

Aberdeen.	T. Harold Reade, M.A., M.Sc., Chemistry Department, Marischal College, The University, Aberdeen.
Australia.	T. Iredale, D.Sc., F.R.I.C., The University, Sydney, Australia.
Birmingham.	L. L. Bircumshaw, M.A., D.Sc., Department of Chemistry, The University, Edgbaston, Birmingham, 15.
Bristol.	E. B. Maxted, D.Sc., Ph.D., F.R.I.C., Chemistry Department, The University, Woodland Road, Bristol.
Cambridge.	F. S. Dainton, Ph.D., B.A., Sidney Sussex College, Cambridge.
Canada.	Professor W. D. McFarlane, M.A., Ph.D., Macdonald College, St. Anne de Bellevue, Quebec, Canada.
Edinburgh.	E. G. V. Percival, D.Sc., Ph.D., F.R.I.C., Chemistry Department, King's Buildings, West Mains Road, Edinburgh.
Eire.	Professor T. S. Wheeler, Ph.D., D.Sc., F.R.I.C., Chemical Department, University College, Upper Merrion Street, Dublin.
Exeter.	S. J. Gregg, Ph.D., A.R.C.S., A.R.I.C., Department of Chemistry, Washington Singer Laboratories, Prince of Wales' Road, Exeter.
Glasgow.	James Bell, D.Sc., Ph.D., F.R.I.C., Chemistry Department, The University, Glasgow, W. 2.
India.	Sir Shanti S. Bhatnagar, O.B.E., D.Sc., F.R.S., The University, Lahore, Punjab, India.
Leeds.	F. R. Goss, D.Sc., Ph.D., F.R.I.C., The University, Leeds, 2.
Liverpool.	A. McGookin, Ph.D., A.R.I.C., Organic Chemistry Department, The University, Liverpool.
Manchester.	A. E. Gillam, D.Sc., F.R.I.C., Chemistry Department, The University, Manchester.
,,	J. C. Withers, Ph.D., A.R.I.C., Shirley Institute, Didsbury, Manchester.
Newcastle and Durham.	G. H. Christie, Ph.D., M.Sc., Department of Science, The University, South Road, Durham.
New Zealand.	Professor F. G. Soper, D.Sc., Ph.D., F.R.I.C., University of Otago, Dunedin, New Zealand.
Northern Ireland.	H. Graham, D.Sc., A.R.I.C., 26, Malone Hill Park, Belfast.
North Wales.	W. Rogie Angus, M.A., D.Sc., Ph.D., F.R.I.C., Department of Chemistry, University College of North Wales, Bangor.
Nottingham.	D. O. Jordan, M.Sc., A.R.I.C., University College, University Park, Nottingham.
Oxford.	R. P. Bell, M.A., B.Sc., F.R.S., Balliol College, Oxford.
St. Andrews and Dundee.	J. D. M. Ross, M.B.E., M.A., D.Sc., Chemistry Department, University College, Dundee.
Sheffield.	Brynmor Jones, B.Sc., Ph.D., Chemistry Department, The University, Sheffield, 10.
South Africa.	Professor W. Pugh, Ph.D., B.Sc., F.R.I.C., Chemistry Department, University of Cape Town, Rondebosch, S. Africa.
South Wales.	Professor J. E. Coates, O.B.E., D.Sc., F.R.I.C., University College, Singleton Park, Swansea.

TECHNOLOGY DEPT.

THE CHEMICAL SOCIETY

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DETROIT

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (Burlington House).

Thursday, December 6th, 1945, at 5 p.m.

The following papers will be read and discussed:

"The constitution of *pseudo*-santonin. Part I." By G. R. Clemo and Wesley Cocker.

"The constitution of *pseudo*-santonin. Part II. The preparation of certain dimethyl naphthols." By Wesley Cocker.

"Experiments in the piperidine series. Part I." By A. H. Cook * and K. J. Reed.
"Part II." By R. M. Anker, A. H. Cook,* and I. M. Heilbron.
"Part III." By R. M. Anker and A. H. Cook.*

"Structure of compounds of ferrocyanide type. Part I. Crystal structure of hexamethylisonitrilo ferrous chloride." By H. M. Powell * and G. W. R. Bartindale.

Thursday, January 17th, 1946, at 5 p.m.

Tilden Lecture, **Substitution,** by Professor E. D. Hughes, D.Sc., F.R.I.C.

MANCHESTER.

Friday, December 7th, 1945, at 6 p.m.

Lecture, **The Principles of Crystal Analysis,** by Professor J. M. Robertson, M.A., D.Sc., F.R.S.

Joint meeting with the local section of the Royal Institute of Chemistry, to be held in the Chemistry Lecture Theatre of the University.

Thursday, January 24th, 1946, at 6 p.m.

Tilden Lecture, **Some Recent Developments in the Chemistry of Free Radicals,** by Dr. W. A. Wáters, M.A.

Joint meeting with the Local Section of the Royal Institute of Chemistry, to be held in the Chemistry Lecture Theatre of the University.

SOUTH WALES.

Monday, January 28th, 1946, at 6 p.m.

Lecture, **The Separation of Isotopes and Thermal Diffusion,** by Professor J. Kendall, D.Sc., F.R.S.

Joint meeting with Swansea University College Chemical Society, to be held in the Chemistry Lecture Theatre of the University College, Swansea.

(This lecture was postponed from October 29th, 1945.)

* To read paper.

LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

Aberdeen.	T. Harold Reade, M.A., M.Sc., Chemistry Department, Marischal College, The University, Aberdeen.
Australia.	T. Iredale, D.Sc., F.R.I.C., The University, Sydney, Australia.
Birmingham.	L. L. Bircumshaw, M.A., D.Sc., Department of Chemistry, The University, Edgbaston, Birmingham, 15.
Bristol.	C. E. H. Bawn, Ph.D., Chemistry Department, The University, Woodland Road, Bristol.
Cambridge.	F. S. Dainton, Ph.D., B.A., Sidney Sussex College, Cambridge.
Canada.	Professor W. D. McFarlane, M.A., Ph.D., Macdonald College, St. Anne de Bellevue, Quebec, Canada.
Edinburgh.	E. G. V. Percival, D.Sc., Ph.D., F.R.I.C., Chemistry Department, King's Buildings, West Mains Road, Edinburgh.
Eire.	Professor T. S. Wheeler, D.Sc., Ph.D., F.R.I.C., Chemical Department, University College, Upper Merrion Street, Dublin.
Exeter.	S. J. Gregg, Ph.D., A.R.C.S., A.R.I.C., Department of Chemistry, Washington Singer Laboratories, Prince of Wales' Road, Exeter.
Glasgow.	James Bell, D.Sc., Ph.D., F.R.I.C., Chemistry Department, The University, Glasgow, W. 2.
India.	Sir Shanti S. Bhatnagar, O.B.E., D.Sc., F.R.S., The University, Lahore, Punjab, India.
Leeds.	F. R. Goss, D.Sc., Ph.D., F.R.I.C., The University, Leeds, 2.
Liverpool.	A. McGookin, D.Sc., Ph.D., A.R.I.C., Organic Chemistry Department, The University, Liverpool.
Manchester.	A. E. Gillam, D.Sc., F.R.I.C., Chemistry Department, The University, Manchester.
,,	J. C. Withers, Ph.D., A.R.I.C., Shirley Institute, Didsbury, Manchester.
Newcastle and Durham.	G. H. Christie, Ph.D., M.Sc., Department of Science, The University, South Road, Durham.
New Zealand.	Professor F. G. Soper, D.Sc., Ph.D., F.R.I.C., University of Otago, Dunedin, New Zealand.
Northern Ireland.	H. Graham, D.Sc., A.R.I.C., 26, Malone Hill Park, Belfast.
North Wales.	W. Rogie Angus, M.A., D.Sc., Ph.D., F.R.I.C., Department of Chemistry, University College of North Wales, Bangor.
Nottingham.	D. O. Jordan, Ph.D., M.Sc., A.R.I.C., University College, University Park, Nottingham.
Oxford.	R. P. Bell, M.A., B.Sc., F.R.S., Balliol College, Oxford.
St. Andrews and Dundee.	J. D. M. Ross, M.B.E., M.A., D.Sc., Chemistry Department, University College, Dundee.
Sheffield.	Brynmor Jones, B.Sc., Ph.D., Chemistry Department, The University, Sheffield, 10.
Southampton.	S. H. Harper, B.Sc., D.Sc., Ph.D., A.R.C.S., D.I.C., University College, Southampton.
South Africa.	Professor W. Pugh, Ph.D., B.Sc., F.R.I.C., Chemistry Department, University of Cape Town, Rondebosch, S. Africa.
South Wales.	Professor J. E. Coates, O.B.E., D.Sc., F.R.I.C., University College, Singleton Park, Swansea.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, November 1st, 1945, at 5 p.m.

The President, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair and welcomed the visitors present.

MINUTES.

The Minutes of the Scientific Meeting held on the 4th October were taken as read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: A. G. D. Emerson, T. A. Rohan, A. Campbell, D. W. Jopling, J. R. Park, R. L. Blackmore, R. Ghosh.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

"Mesohydric tautomerism." By L. Hunter.

"The sorption of condensable vapours by porous solids. Part III. Multimolecular adsorption. Part IV. Linear isothermals and the Langmuir equation." By A. G. Foster.

"Retention of asymmetry during the Beckmann, Lossen, and Curtius changes." By A. Campbell and J. Kenyon.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Lancelot Alexander Borradaile	May 16th, 1895.	Oct. 20th, 1945.
Satyendra Nath Chakravarti	Feb. 17th, 1927.	Aug. 30th, 1945.
Arthur James Cooper	Dec. 15th, 1892.	Dec. 6th, 1944.
John Evans	Dec. 1st, 1904.	July 1st, 1945.
Ernest Gabriel Jones	Feb. 20th, 1941.	July 14th, 1945.
Donald Purdie	June 6th, 1935	1944.

(Prisoner in Japanese hands—date of death presumed.)

PRESENTATION TO MR. S. E. CARR.

It has been suggested that many Fellows of the Society would welcome an opportunity of contributing to a presentation to Mr. S. E. Carr on his retirement from the office of General Secretary after forty-two years of service. The Council decided to invite contributions of not more than ten shillings from Fellows and friends. The nature and date of the presentation will be decided at a later date and notified to contributors.

Contributions should be sent, not later than January 31st, 1946, to Dr. D. C. Martin, General Secretary, at Burlington House, W. 1. Fellows desirous of paying through a bank should cross cheques "S. E. Carr Fund."

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. K. H. Wilks for a gift of Publications.

EDITORSHIP.

Dr. J. E. Driver has been appointed Editor as from January 1st, 1946, in place of Professor C. S. Gibson who is kindly serving temporarily as Acting Editor.

ACCOMMODATION OF THE LIBRARY.

For many years past it has been a problem of increasing urgency to find adequate accommodation for the library of the Society. The only completely satisfactory solution would be a removal to new premises with proper housing for the library, but a drastic reconsideration of all possible ways of finding extra space at Burlington House has now led to new steps which will meet the need for shelving space for a few more years. These steps involve serious additional inconvenience to the Office and Library staffs, but will not for the present cause any interference with the Society's meeting room. At the same time the arrangement of the library reading-room has been improved so as to provide accommodation for a number of additional readers.

ELECTION OF NEW FELLOWS.

The following 23 candidates were elected Fellows of the Chemical Society on November 1st, 1945:

JohnDempster.	John Archer Mills.	Irvine Giles Rankin.
Bernard Thomas Donovan.	Philip Edward Lovering.	James Charles Cyril Ransom.
Francis Barnett Dudley.	John Main McGowan.	Albert John Seavell.
Harold Fore.	William Lindsay Mosby.	Oliver Stephenson.
Gordon Howard Foxon.	Margaret McCowan Stewart Mackie.	Guy Harold Ralph Watson.
Norah Hall.	Thomas Patrick Cunningham Mulholland.	Geoffrey Albert Weeks.
Robert Theodore Hunter.	John Young Fraser Paterson.	Edward Arthur Williams.
Narinder Singh Kapur.	Felix Popper.	

LOCAL REPRESENTATIVES.

BRISTOL.

Dr. C. E. H. Bawn, Department of Chemistry, The University, Woodland Road, Bristol, has accepted the invitation of the Council to become the Representative of the Society in the Bristol Area in place of Dr. E. B. Maxted who has resigned.

SOUTHAMPTON.

The Council has decided to appoint a Local Representative in the Southampton Area, and Dr. S. H. Harper, University College, Southampton, has accepted the invitation of the Council to become the first Local Representative.

BRITISH STANDARDS TECHNICAL COMMITTEE: C/17, VISCOSITY.

Dr. A. E. Dunstan has been nominated as the Society's Representative on this Committee.

PAPER ON GERMAN RESEARCH WORK.

A paper entitled "Cyclopolyolefines," describing hitherto unpublished research work carried out in Germany, has been received from the Ministry of Supply. Copies of this paper have been placed in the Library and may be examined, or borrowed, on application to the Librarian.

CHRISTMAS CLOSING OF THE LIBRARY.

The Library will be closed for the Christmas Holidays from Monday, December 24th, until Thursday, December 27th, both dates inclusive.

MEETINGS OUTSIDE LONDON.

GLASGOW.

(a) *On October 26th.*

At a joint meeting of the Society with the Glasgow University Alchemists' Club and the Andersonian Chemical Society held in the Chemistry Department, The University, Glasgow, on Friday, October 26th, Sir Robert H. Pickard delivered a lecture on "Long Chain Molecules." Professor J. M. Robertson occupied the Chair. After consideration of the work of Carothers on the self-esterification of hydroxy acids, the development of some aspects of the chemistry of long-chain molecules was critically discussed. A vote of thanks to the lecturer, proposed by Mr. H. Winning, President of the Andersonian Chemical Society, was enthusiastically carried.

(b) *On November 16th.*

A joint meeting of the Chemical Society with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held in the Royal Technical College, Glasgow, on Friday, November 16th, with Professor J. M. Robertson, F.R.S., in the Chair, when Professor J. M. Gulland, F.R.S., lectured on " Polynucleotides and Nucleoproteins."

After discussing the widespread occurrence, biological importance, and probable function, of nucleic acids, Professor Gulland considered the problem of the formation of nucleic acids from the nucleotide units in the light of recent work.

MANCHESTER.

On October 29th.

Jointly with the local sections of the Society of Chemical Industry and Royal Institute of Chemistry the Manchester section held a meeting on October 29th at the Engineers' Club, when Mr. F. P. Dunn, the Treasurer of the Society, delivered a lecture entitled " The Publication of the Three Chartered Bodies."

After an historical survey, he outlined the present financial arrangements for publications and indicated the planned future improvements. The Lecture, illustrated by lantern slides, was followed by an enthusiastic discussion. The Chairman was Mr. J. T. Marsh, and a vote of thanks proposed by Mr. C. Gysin, seconded by Dr. F. S. Spring, was carried with acclamation.

SHEFFIELD.

(a) *On October 26th.*

A meeting of the Society was held jointly with the South Yorkshire Section of the Royal Institute of Chemistry and the University of Sheffield Chemical Society on Friday, October 26th, 1945, at 6.30 p.m., in the Chemistry Lecture Theatre of the University, with Professor R. D. Haworth, F.R.S., in the Chair. Professor D. T. A. Townend, D.Sc., and Dr. J. E. Garside lectured on " Burner Flames," Professor Townend discussing " Quiescent Flames " and Dr. Garside " Turbulent Flames." The lectures and demonstrations were greatly appreciated by a large audience, and a vote of thanks to the two lecturers, proposed by Dr. Mott and seconded by Miss E. G. Turner, was carried with enthusiasm.

(b) *On November 16th.*

A joint meeting of the Society and the University of Sheffield Chemical Society was held in the Chemistry Lecture Theatre of the University on Friday, November 16th, 1945, at 5.30 p.m., with Professor R. D. Haworth, F.R.S., in the Chair, when Professor I. M. Heilbron, D.S.O., LL.D., F.R.S., Vice-President of the Society, delivered a lecture on " Our War against Insect Pests," to a very large and appreciative audience. After outlining the main developments in the field of Chemotherapy since the time of Ehrlich, Professor Heilbron proceeded to give a fascinating account of the discovery and application of the insecticide DDT. A lively and interesting discussion followed, and, at the close, a vote of thanks to Professor Heilbron, proposed by Dr. Brynmor Jones, and seconded by Mr. A. R. Pinder, was carried with acclamation.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before December 31st, 1945. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

†**Ault, Robert Geoffrey,** B.Sc.Hons. and Ph.D. (Birm.), F.R.I.C. British. The Laboratory, Mitchells & Butlers, Ltd., Cape Hill, Birmingham. Research Chemist and Bacteriologist. *Signed by :* W. N. Haworth, M. Stacey, Stanley Peat.

***Bentley, Kenneth Walter.** British. 6, Lower Rushton Road, Thornbury, Bradford. Reading for Honours Degree in Chemistry at Lincoln College, Oxford. *Signed by :* Ronald P. Bell, N. V. Sidgwick, F. M. Brewer.

***Berlak, Marianne Cecilia,** B.Sc.Hons. (Lond.). Stateless, former German. 283, Watford Way, Hendon, N.W. 4. Assistant Chemist (Research) at English Metal Powder Co., Ltd., West Drayton. *Signed by :* D. H. Richardson, W. Gerrard, G. W. Wrzeszinski.

Birch, Harold Foster, B.Sc.Hons. and Ph.D. (L'pool). British. 29, Wetstone Lane, West Kirby. Organic Chemist, Cinchona Research Organisation (Colonial Service). *Signed by :* T. A. Henry, J. A. Goodson, T. M. Sharp.

Bowyer, Henry. British. 3, Buckley Crescent, Little Bispham, Blackpool. Chemist (Manufacturing). *Signed by:* C. D. Moore, Howard A. Costigan, Edward B. Oldbury.

***Bristow, Norman William,** B.A. Part II Natural Sciences Tripos (Chemistry), 1945 (Cantab.). British. Emmanuel College, Cambridge. Research Student at University Chemical Laboratory, Pembroke Street, Cambridge. *Signed by:* F. S. Dainton, B. A. Kilby, A. R. Todd.

***Brown, Ben Ronald.** British. 109, Queen Street, Swinton, Mexborough. Reading Part I Honours Chemistry, Oxford. *Signed by:* D. Ll. Hammick, H. R. Ing, A. S. Bailey.

†**Caldwell, Charles Collingwood,** B.Sc. (Lond.), A.R.I.C. British. Montrose, Harpenden Road, St. Albans. Army Officer. *Signed by:* R. Leslie Collett, H. J. T. Ellingham, Alex. Findlay.

(a)**Cohn, Irene Marianne,** Inter.B.Sc. (Lond.), Student for B.Sc. (Sp.) Chemistry. German. 24, Hill Rise, N.W. 11. Research Assistant. *Signed by:* D. J. G. Ives, Wm. Wardlaw, M. B. Green.

†**Coxon, Wilfred Francis,** M.Sc. and Ph.D. (Lond.), F.R.I.C. British. 35, Castlebar Road, Ealing, W. 5. Principal Technical Officer, M.A.P. *Signed by:* R. J. W. Le Fèvre, D. H. Peacock, H. J. T. Ellingham.

(a)**Critchley, Stanley,** A.R.I.C. 41, Sutton Road, Askern, nr. Doncaster. Analytical Chemist, British Bemberg, Ltd., Wheatley, Doncaster. *Signed by:* Harry Wilson, E. A. Boyce, R. Leslie Collett.

Cuthbertson, William Wilson, B.Sc.Hons. (St. Andrews), Research Worker for 2 years at St. Andrews University. British. 39, Eddy Close, Jutsums Lane, Romford. Research Chemist in the Chemotherapeutic Research Division of May and Baker, Ltd., Dagenham. *Signed by:* J. C. Irvine, John Read, John Dewar.

‡**Darlaston, Arthur John Halstead,** B.A. (Oxon.), A.R.I.C. British. 40, Gloucester Road, New Barnet. Chief Chemist, Cosmos Manufacturing Co., Ltd. (Radio Valve Manufacturers), Brimsdown, Enfield. *Signed by:* Leonard Levy, D. W. West, E. G. V. Barrett.

†**Deverell, David,** B.Sc.Hons. (Lond.). British. 16, Chalgrove Crescent, Clayhall Avenue, Ilford. Analytical Chemist. *Signed by:* H. Wells, R. W. Hodgkinson, Maurice H. Pearson.

Devlin, William St. J., M.Sc. (N.U.I.), A.R.I.C. Irish. 2, Patrick Street, Cork. Research Chemist, M. Atkins, Chemical Manufacturers. Part-time Lecturer in Chemistry and Physics in Crawford Municipal Technical Institute. *Signed by:* Joseph Reilly, Michael A. Fielding, John C. Aherne.

Ellinger, Leo Philipp, M.A. and D.Phil. (Oxon.). German. 4, Heath Mansions, Putney Heath Lane, S.W. 15. Research Chemist at Ward, Blenkinsop & Co., Ltd., Greenland Mills, Bradford-on-Avon. *Signed by:* S. G. Waley, Walter T. J. Morgan, S. S. Zilva.

†**Evans, Alfred Alexander,** B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 19, Duppas Hill Road, Wadden, Croydon. Chemist, Roche Products, Welwyn Garden City. *Signed by:* J. A. R. MacLean, M. Davis, F. B. Jones.

(b)**Foxcroft, Hugh John,** B.Sc. Physics (Subsid.), taking Special Chemistry in June, 1946. Registered Student, Royal Institute of Chemistry. British. 66, Dorset Road, Merton Park, S.W. 19. Plant Chemist with Organon Laboratories, Ltd., Deer Park Road, Lombard Road, Merton, S.W. 19. *Signed by:* J. W. Smith, Norman B. Peake, Paul F. Holt.

†**Franklin, Charles Ronald,** B.Sc.Hons. (Wales), Diploma in Chemical Engineering (London). British. 74, The Drive, Golders Green, N.W. 11. Chemical Engineer to Messrs. Carless, Capel and Leonard of Hackney Wick, E. 9. *Signed by:* J. E. Coates, L. E. Hinkel, E. E. Ayling, N. H. Hartshorne, R. H. Davies.

(a)**Gilby, Jack Arthur,** Inter.B.Sc. (Lond.). British. 94, Longcroft Lane, Welwyn Garden City. Junior Chemist. *Signed by:* W. Gerrard, A. Cohen, F. P. Handisyde.

(a)**Gutmann, Ernest Michael,** Inter.B.Sc. and B.Sc.Subsid. in Physics (Lond.). Formerly German. 45, Kingsley Court, Park Avenue, N.W. 2. Research Assistant. *Signed by:* M. B. Green, Wm. Wardlaw, D. J. G. Ives.

***Hillman, Margaret Elizabeth,** B.Sc.Hons. (Lond.). British. 60, Ellerton Road, S.W. 18. Research Chemist at British Rubber Producers Research Association. *Signed by:* G. M. Bennett, Gwyn Williams, C. S. Salmon.

***Latham, Donald,** London Matriculation. British. 199, Bellingham Road, Catford, S.E. 6. H.M. Forces (Army). *Signed by:* B. C. Platt, W. Solomon, T. M. Sharp.

Levy, Paul Russell, B.Sc.Hons. (Witwatersrand). South African National. 57, St. Patrick Road, Houghton Estate, Johannesburg. Graduate Assistant, Chemistry Department, Witwatersrand University. *Signed by:* Henry Stephen, H. R. Raikes, O. G. Backeberg.

***Loewenthal, Hans Jakob Edgar,** B.Sc.Hons. (Lond.). German. 15, Dunstan Road, N.W. 11. Research Chemist with Chemi-Synthetics, Ltd., Saunders Ness Road, E. 14. *Signed by:* H. Lambourne, J. Pomeraniec, W. M. Wolf.

***Macdowell, Denis William Herbert,** B.Sc.Hons. (Q.U.B.). British. 70, Maryville Park, Malane Road, Belfast. Research Chemist, Linen Industry Research Association, Lambeg, Co. Antrim. *Signed by:* Henry Wren, R. W. Kinkead, Trevor G. Majury.

†**Mackenzie, Kenneth,** M.Sc.Tech. (Manc.), Ph.D. (Aberd.), A.M.C.T. British. Woodlands, Tring. Chief Chemist, Hordern Richmond, Ltd., Haddenham. *Signed by:* E. G. V. Percival, T. R. Bolam, Neil Campbell.

†**McLean, John,** Ph.D. (Glas.), and B.Sc. F.R.I.C. British. 810, Crow Road, Glasgow, W. 3. Lecturer in Chemistry, Royal Technical College, Glasgow, C. 1. *Signed by:* I. Vance Hopper, John A. Cranston, A. B. Crawford.

Merton, William Ralph, M.A.Hons. (Oxon.). British. 26a, North Audley Street, W. 1. Scientific Consultant. *Signed by:* Alfred C. Egerton, Thomas R. Merton, H. T. Tizard.

†**Murfin, John Webster.** Passed theory papers of London B.Sc. (Special Chem.) while P.O.W. in Germany. Registered Student of Royal Institute of Chemistry. British. 10, Kingston Road, West Bridgford. Student at Nottingham University College studying to complete degree of London B.Sc. (Special Chemistry). *Signed by:* D. O. Jordan, John C. Roberts, H. F. W. Taylor.

†**Nicholson, Jack,** B.Sc.Hons. (Manc.), A.R.I.C., Diploma of Education (Manc.). British. Inglenook, Stockingate, South Kirkby, nr. Pontefract. Metallurgical Research Chemist. *Signed by:* J. B. M. Herbert, Colin Campbell, F. Fairbrother.

†**Nickels, Kenneth Ernest,** B.Sc. (Lond.), A.M.I.Chem.E. British. 31, Stonehouse Road, Sutton Coldfield. Chemical Engineer. *Signed by:* C. Diamond, F. Stanley Brown, H. Paul.

O'Tuama, Diarmuid, M.Sc. (N.U.I.). Irish. 55, Annamoe Road, Cabra, Dublin. Research Chemist with the Medical Research Council of Ireland. *Signed by:* Vincent C. Barry, T. S. Wheeler, A. G. G. Leonard.

†**Pleaden, Ronald Francis,** B.Sc. (Lond.), F.R.I.C. British. Ordnance Factory, Khamaria, Jubbulpore, C.P., India. Indian Ordnance Service. *Signed by :* R. Leslie Collett, Alex. Findlay, H. J. T. Ellingham.

(b)**Roberts, Robert,** B.Sc.Hons. (Wales). British. Nuneham, North Road, Aberystwyth. Research Student, University College of Wales, Aberystwyth. *Signed by :* C. W. Davies, K. Heller, J. B. Bowen.

†**Savill, Albert Henry,** M.Sc. (Lond.), A.R.I.C. British. Wandsworth and District Gas Co., Fairfield Street, Wandsworth, S.W. 18. Chief Chemist. *Signed by :* E. de Barry Barnett, John R. Dewhurst, Eunice A. Bucknell.

•**Smith, Herschel,** B.A.Hons. (Cantab.). British. Emmanuel College, Cambridge. Research Student. *Signed by :* F. S. Dainton, D. R. Lyon, F. G. Holliman.

Simpson, James Dudley Moor, B.Sc.Hons. (Witwatersrand). South African National. 6a, Eight Street, Springs, Transvaal. Graduate Assistant, Department of Chemistry, The University, Witwatersrand. *Signed by :* Henry Stephen, H. R. Raikes, O. G. Backeberg.

†**St. John, Dara Derrick Phiroz,** B.Sc. (Lond.), A.R.I.C. British. 199, Tilehouse Green Lane, Knowle. Research Chemist. *Signed by :* G. Barnett, E. G. K. Pritchett, C. E. Scoffom.

†**Youd, Frederick Robert,** B.Sc.Hons. (Birm.), A.R.I.C. British. 11, Mayfield Road, Edinburgh, 9. At present serving in H.M. Forces, Captain, Royal Electrical and Mechanical Engineers. *Signed by :* W. N. Haworth, Stanley Peat, S. R. Carter.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Bergmann, Felix, Dr.Phil. and Dr.Med. (Berlin). Palestinian. The Daniel Sieff Research Institute, Rehovoth, Palestine. Research Chemist, Sieff Institute. *Signed by :* L. Haskelberg, A. Fodor.

†**Cavill, George William Kenneth,** B.Sc. (Sydney), A.R.I.C. British. 40, Chandos Street, Ashfield, N.S.W. Lecture in Chemistry, Sydney Technical College. *Signed by :* J. C. Earl, T. Iredale.

‡**Joiner, William Alexander,** M.Sc. (New Zealand), Diploma in Chemical Engineering (Lond.), F.R.I.C., A.M.I.Chem.E. British. Dominion Laboratory, Department of Scientific and Industrial Research, Wellington, New Zealand. Assistant Director and Chief Chemical Engineer (Dominion Laboratory). *Signed by :* L. H. James.

• Reduced annual subscription.
† Three-body.
‡ Two-body.
(a) Junior Membership two-body.
(b) Junior Membership three-body.

PAPERS RECEIVED

List of papers received between October 5th and November 1st, 1945. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Physical properties and chemical constitution. Part IX. Aliphatic hydrocarbons." By A. I. VOGEL.

"Acetylation of some 5-aminoacridines." By J. H. WILKINSON and I. L. FINAR.

"New potential chemotherapeutic agents. Part III. Derivatives of diphenylamine and of αα-diphenylmethylamine." By F. E. KING, T. J. KING, and (MISS) I. H. M. MUIR.

"The course of autoxidation reactions in polyisoprenes and allied compounds. Part XI. Double bond movement during the autoxidation of a mono-olefin." By E. H. FARMER and D. A. SUTTON.

"New synthetic oestrogens. Part I. The synthesis of α : β : 2 : 2′-tetramethyl-4 : 4′-dihydroxystilbene and α : β : 2 : 2′-tetramethyl-4 : 4′-dihydroxydibenzyl." By B. J. F. HUDSON and E. WALTON.

"The structure of some electron-deficient molecules." By H. C. LONGUET-HIGGINS.

"Chemical investigations of the insecticide 'DDT' and its analogues. Part I. Reactions of 'DDT' and associated compounds." By J. FORREST, O. STEPHENSON, and W. A. WATERS.

"Experiments in the piperidine series. Part III." By R. M. ANKER and A. H. COOK.

"Studies in the detoxication of catalyst poisons. Part IV. Detoxication of carbon disulphide." By E. B. MAXTED and A. MARSDEN.

"Reactions of alkyl*iso*formanilides. Part II. With reactive pyridinium salts." By E. B. KNOTT.

"Aminoalkyl esters of thiazolecarboxylic and thiazolyl-4-acetic acids." By E. R. H. JONES, F. A. ROBINSON, and M. N. STRACHAN.

"Quinolyl derivatives of *p*-aminobenzamide." By J. H. GORVIN.

"The mechanism of benzidine-type rearrangements, and the rôle of π-electrons in organic chemistry." By M. J. S. DEWAR.

"Contributions to the chemistry of synthetic antimalarials. Part II. Tetrahydro-pamaquin." By H. J. BARBER and W. R. WRAGG.

"Some 5-*spiro*thiazolidiones." By E. R. H. JONES, F. A. ROBINSON, and M. N. STRACHAN.

"Cinnolines. Part V. The reaction between pyridine, acetic anhydride, and 4-hydroxycinnoline-3-carboxylic acid." By K. SCHOFIELD and J. C. E. SIMPSON.

"Cinnolines. Part VI. Derivatives of 4-hydroxy-6 : 7-dimethoxycinnoline-3-acetic acid." By J. C. E. SIMPSON.

"Organic sulphur compounds. Part XXIX. Experiments with 1-thio-γ-pyrones. Thermal rearrangement of 1-thio-γ-pyrone derivatives into the isomeric 1-thio-α-pyrone derivatives." By A. SCHÖNBERG and (MISS) W. ASKER.

"Action of Grignard's reagent. Part II. Replacement of the oxygen atoms of ketones for two hydrocarbon radicals by the action of Grignard's reagent." By A. SCHÖNBERG and (MISS) W. ASKER.

"1 : 2 : 3 : 4-Tetrachloronaphthalene." By W. P. WYNNE.

"The identity of 6-aminoacetoveratrone." By J. C. E. SIMPSON.

"Substances allied to benzylamine-4-sulphonamide." By T. DEWING.

"Nitration of aromatic *ortho*hydroxycarboxylic acids and their esters with diacetyl*ortho*nitric acid." By H. C. BARANY and M. PIANKA.

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THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (Burlington House).

Thursday, March 7th, 1946, at 5 p.m.

Pedler Lecture, **Synthesis in the Study of Nucleotides,** by Professor A. R. Todd, D.Sc., F.R.S.

EDINBURGH.

Friday, February 22nd, 1946, at 7.30 p.m.

Lecture, **Some Problems in Polysaccharide Chemistry,** by Professor E. L. Hirst, M.A., D.Sc., F.R.S.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry, to be held in the North British Station Hotel.

Friday, March 22nd, 1946, at 7.30 p.m.

Lecture, **Trace Elements in Agriculture,** by Dr. W. G. Ogg, M.A., Director of the Rothamsted Experimental Station.

Joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry, to be held in the North British Station Hotel.

EIRE.

Tuesday, February 26th, 1946, at 8 p.m.

Lecture, **The Structure and the Enzymic Synthesis of Starch,** by Professor W. N. Haworth, D.Sc., F.R.S.

To be held in the Department of Chemistry of University College, Upper Merrion Street, Dublin.

GLASGOW.

Friday, February 15th, 1946, at 5.30 p.m.

Tilden Lecture and Official Meeting of the Society, **Some Recent Developments in the Chemistry of Free Radicals,** by Dr. W. A. Waters, M.A.

To be held in the large Lecture Theatre of the Chemistry Department of the University.

LEEDS.

Tuesday, March 5th, 1946, at 5 p.m.

Display of Scientific Films, followed by Lecture at 6.30 p.m. on **Crystal Analysis as a Clue to Chemical Problems,** by Dr. Kathleen Lonsdale, F.R.S.

Joint meeting with the Leeds University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, February 21st, 1946, at 5 p.m.

Lecture, **The Chemical Investigation of some New Therapeutic Agents,** by Dr. F. E. King, M.A.

To be held in the Muspratt Lecture Theatre of the University.

MANCHESTER.

Wednesday, February 27th, 1946, at 7 p.m.

Lecture, **What Industry Expects from the Chemist,** by Dr. C. J. T. Cronshaw, F.R.I.C.

Joint meeting with the local section of the Royal Institute of Chemistry, to be held at the Engineers' Club, Albert Square.

Thursday, March 14th, 1946, at 6 p.m.

Meeting for the reading of original papers.

To be held in the Chemistry Theatre of the University.

NEWCASTLE and DURHAM.

Friday, February 22nd, 1946, at 5.30 p.m.

Bedson Club Lecture, **Structural Inorganic Chemistry,** by Professor W. Wardlaw, D.Sc., F.R.I.C.

To be held in King's College, Newcastle-on-Tyne, and all Fellows are invited.

Friday, March 1st, 1946, at 4.30 p.m.

Meeting for the reading of original papers.

To be held in the Chemistry Lecture Theatre, King's College, Newcastle-on-Tyne.

NORTH WALES.

Thursday, February 21st, 1946, at 5.30 p.m.

Lecture, **The Structure of Boron Hydrides and Similar Compounds,** by Mr. R. P. Bell, M.A., F.R.S.

Joint meeting with the University College of North Wales Chemical Society, to be held in the Department of Chemistry at the University College, Bangor.

SHEFFIELD.

Friday, March 8th, 1946, at 5.30 p.m.

Lecture, **Some Aspects of the Chemistry of Mono- and Di-sulphide Links,** by Professor F. Challenger, D.Sc., F.R.I.C.

Joint meeting with the University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, January 17th, 1946, at 5 p.m.

PROFESSOR C. K. INGOLD, D.Sc., F.R.S., Vice-President, was in the Chair and welcomed the visitors present.

MINUTES.

The Minutes of the Scientific Meeting held on December 6th, 1945, were taken as read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: E. A. Williams, G. Leaf, R. Kressman, P. E. Lovering, M. E. Arnold, P. E. Milsom, R. G. Wall, J. B. Gardner, H. Loewenthal, Eva Dresel, K. W. Russell, A. E. James, R. G. D. Crick, M. J. Boyle, K. H. V. French, G. H. Green, D. Leighton, Margaret E. Hillman, R. Roberts, E. Cartnell, A. J. Evans, I. Leslie, F. M. Page, J. Allen, P. C. Crofts, R. M. Evans, G. H. Williams, C. H. Greenstreet, Dorothy M. Usher, O. T. Benfey, B. R. Jacobs.

TILDEN LECTURE.

After a brief introduction the Chairman called on Professor E. D. Hughes, D.Sc., F.R.I.C., to deliver his Tilden Lecture, entitled: "Substitution."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by Dr. Gwyn Williams, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS.

DEATHS.

The Council regret to announce the death of the following Fellows:

	Elected.	Died.
George Stacey Albright	1879	Dec. 28th, 1945.
Edward Frankland Armstrong (Council Member 1920—22, 1923—25, Vice-President, 1933—34)	1903	Dec. 14th, 1945.
Henry Atlas	1914	Dec. 1945.
William John Atkinson Butterfield	1889	Dec. 13th, 1945.
John William Clayton	1889	Dec. 21st, 1944.
Edward Henry Farr	1895	Jan. 1939.
Alfred Lucas	1899	Dec. 9th, 1945.
John William Pooley	1936	Nov. 1945.
Charles Ranken	1885	Feb. 1944.
Frederick William Robinson	1909	Aug. 17th, 1945.
Alexej Eugueniévitsch Tschitschibabin	1916	Aug. 15th, 1945.

CONGRATULATIONS.

The Council has sent congratulations

(*a*) To Sir Robert Robinson, Past-President, on his election to the Presidency of the Royal Society.

(*b*) To the following whose names appeared in the New Year's Honours List.

Knight Bachelor: C. F. Goodeve, I. M. Heilbron, H. A. Tempany.
C.M.G.: H. J. Channon, A. K. MacBeth, S. J. Saint.
C.I.E.: F. H. Carpenter.
C.B.E.: H. D. Kay, J. D. Pratt.
O.B.E.: W. M. Cumming, A. T. Green, J. H. Schulman, O. H. Wansbrough-Jones, J. R. H. Whiston.

(*c*) To Sir Ian Heilbron, Vice-President, on the occasion of the award to him of the Priestley Medal of the American Chemical Society.

VACANCIES ON COUNCIL.

The names of the members of Council who retire at the next Annual General Meeting are as follows:

President : Professor W. N. HAWORTH.
Vice-President who has filled the Office of President : Professor P. F. FRANKLAND.
Vice-Presidents who have not filled the Office of President : Sir ALFRED EGERTON and Professor C. K. INGOLD.
Honorary Secretary : Dr. G. M. BENNETT.
Elected Ordinary Members of Council :

Constituency I (South-East England). Dr. J. C. SMITH, Dr. G. B. B. M. SUTHERLAND, and Dr. W. H. J. VERNON.
Constituency II (Central and South-West England). None.
Constituency III (North-West England, North Wales, and the Isle of Man). Professor R. A. MORTON and Dr. F. S. SPRING.
Constituency IV (North-East England). None.
Constituency V (Scotland). Dr. J. D. M. ROSS.

The above are ineligible for the same office until after the lapse of one year.

In accordance with Bye-Law 47 Professor W. N. Haworth, as retiring President, becomes a Vice-President who has filled the office of President.

In June 1945 the Council accepted the resignation of Professor H. V. A. Briscoe from the office of Honorary Secretary and appointed Dr. J. L. Simonsen to this office until the next Annual General Meeting.

In May 1945 the Council co-opted Professor C. W. Davies as an additional ordinary member of Council in accordance with Bye-Law 19.

In accordance with Bye-Law 42, the Council, in November 1945, invited Dr. S. H. Harper to fill, until the next Annual General Meeting, the vacancy created by the retirement of Professor W. F. K. Wynne-Jones under Bye-Law 56, and in December, 1945, likewise invited Professor M. Polanyi to fill the vacancy created by the retirement of Professor D. H. Hey under Bye-Law 56. The retirement of Professor W. F. K. Wynne-Jones and Professor D. H. Hey created one additional vacancy in Constituencies I and III respectively.

Dr. S. H. Harper and Professor M. Polanyi are both eligible for re-election in their respective constituencies.

NOTICE is hereby given that in accordance with the Bye-Laws the following vacant places in the Council fall due to be filled at the Annual General Meeting to be held in Birmingham on April 25th, 1946.

President	*One vacancy.*
Honorary Secretary	*Two vacancies.*
Vice-Presidents who have not filled the office of President	*Two vacancies.*
Elected Ordinary Members of Council :	
Constituency I (South-East England)	*Four vacancies.*
Constituency II (Central and South-West England)	*No vacancies.*
Constituency III (North-West England, North Wales, and Isle of Man)	*Three vacancies.*
Constituency IV (North-East England)	*No vacancies.*
Constituency V (Scotland)	*One vacancy.*

In accordance with Bye-Law 23, the Council have nominated Professor C. N. Hinshelwood to the office of President for the period 1946—1948, and Dr. J. L. Simonsen and Professor D. H. Hey to the offices of Honorary Secretary.

Nominations by Fellows for the offices of President, Honorary Secretary or Vice-President should be made in writing **signed by at least twenty Fellows.**

Fellows resident in a constituency may nominate any Fellow resident in that constituency for election to the Council to fill a vacancy among Elected Ordinary Members of Council allotted to that constituency. Every such nomination must be in writing **signed by at least fifteen Fellows resident in that constituency.**

Every nomination must relate to one vacant place only, and must be accompanied by a signed declaration by the nominee that he is willing to accept office, if elected.

All nominations must be received by the Honorary Secretaries at the Society's Rooms **not later than Thursday, the February 14th, 1946.**

Forms of nomination can be obtained on application to the General Secretary. Applicants should indicate the vacancy for which the form is required.

Fellows have also been notified of these vacancies in a separate notice.

CENTENARY CELEBRATIONS.

The Council has appointed a Centenary Celebrations Executive Committee to prepare for the Centenary celebrations of the Society to be held in July 1947.

REPORTS OF INVESTIGATORS ON GERMAN CHEMICAL INDUSTRY.

A number of reports by British investigators on German Chemical Industry has been received from the Board of Trade through the Department of Scientific and Industrial Research, and can be inspected in the Society's Library. A list of these reports can be inspected on the notice-board. Copies of some of the reports can be borrowed.

REPRESENTATION OF THE SOCIETY ON THE COMMITTEE OF THE LAWES AGRICULTURAL TRUST.

The President has consented to represent the Society on the Committee of the Lawes Agricultural Trust.

AID TO POLISH SCIENTIFIC LIBRARIES.

The Society has received an appeal to the generosity of Fellows from Professor Urbanski to offer any surplus books on any scientific subject, particularly on chemistry and journals, particularly sets for past years, reprints of their own published papers, etc. These books are required to replace the removal or destruction of Polish libraries by the enemy. All books offered by Fellows should be sent direct to The Polish Embassy, Portland Place, London, marked "FOR POLITECHNIKA—WARSAW."

INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS.

Notice has been received that the General Assembly of the International Council of Scientific Unions will meet in London on July 22nd—24th, 1946.

JOINT COMMITTEE ON METALLURGICAL EDUCATION.

The Iron and Steel Institute, the Institution of Mining and Metallurgy, the Institute of British Foundrymen, the Institute of Metals, and the Institution of Metallurgists have recently set up a Joint Committee on Metallurgical Education to advise and co-ordinate the policy of their respective Councils on all matter concerning education in metallurgy.

Enquiries will be welcomed and should be addressed to the Secretary at No. 4 Grosvenor Gardens, London, S.W. 1.

ANNUAL REPORTS ON THE PROGRESS OF CHEMISTRY, 1944.

It is regretted that owing to the present paper situation it has not been possible to circulate, at the same time, copies of the *Annual Reports* for 1944 to all Fellows who receive them. All outstanding copies will be sent as soon as possible.

ABSTRACTS "A" INDEX, 1944.

It is anticipated that copies of the Abstracts "A" Index 1944 will be sent, to Fellows who receive them, about the end of February.

ELECTION OF NEW FELLOWS.

The following 43 candidates were elected Fellows of the Chemical Society on January 10th, 1946:

Robert Geoffrey Ault.
Kenneth Walter Bentley.
Felix Bergmann.
Marianne Cecilia Berlak.
Harold Foster Birch.
Henry Bowyer.
Norman William Bristow.
Ben Ronald Brown.
Charles Collingwood Caldwell.
George William Kenneth Cavill.
Irene Marianne Cohn.
Wilfred Francis Coxon.
Stanley Critchley.
William Wilson Cuthbertson.
Arthur John Halstead Darlaston.
David Deverell.
William St. J. Devlin.
Leo Philipp Ellinger.
Alfred Alexander Evans.
Hugh John Foxcroft.
Charles Ronald Franklin.
Jack Arthur Gilbey.
Ernest Michael Gutmann.
Margaret Elizabeth Hillman.
William Alexander Joiner.
Donald Latham.
Paul Russell Levy.
Hans Jakob Edgar Loewenthal.
Denis William Herbert Macdowell.
Kenneth Mackenzie.
John McLean.
William Ralph Merton.
John Webster Murfin.
Jack Nicholson.
Kenneth Ernest Nickels.
Diarmuid O'Tuama.
Ronald Francis Pleaden.
Robert Roberts.
Albert Henry Savill.
Herschel Smith.
James Dudley Moor Simpson.
Dara Derrick Phiroz St. John.
Frederick Robert Youd.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before February 28th, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Allen, Keith William,** Inter.B.Sc. British. Conygar, Monk's Lane, Newbury. Scientific Observer, British Coal Utilisation Research Association. Student at Regent Street Polytechnic. *Signed by :* Maurice Pereira-Mendoza, M. Vahrman, Clarence A. Seyler.

Anslow, Winston Kennay. Part author of several Rapers published in the " Journal of the Chemical Society " and the " Biochemical Journal." British. Glaxo Laboratories, Barnard Castle, Co. Durham. Research Chemist. *Signed by :* F. W. Anderson, E. F. D. Winter, A. E. Oxford.

Apley, Martin, B.Sc.Hons. (Lond.). British. 3, The Byway, Potters Bar. Chief Chemist, Catalin, Ltd., Waltham Abbey. Directing research and development in Research Laboratories on synthetic resin products. *Signed by :* C. S. Garland, J. Stewart Cook, Herbert L. Howard.

Austin, Arthur Thomas, M.Sc. (Melbourne), A.A.C.I. British. London House, Guilford Street, W.C. 1. Research Student at University College, London. *Signed by :* C. K. Ingold, H. G. Poole, O. L. Brady.

***Barber, George Albert,** B.Sc.Tech. (Manc.), A.M.C.T. British. 44, Willow Way, Didsbury, Manchester, 20. Analytical Chemist, Boots Pure Drug Co., Ltd., Nottingham. *Signed by :* Eric Kennedy, W. F. Elvidge, A. D. Powell.

Bett, Walter Reginald, M.R.C.S.Eng., L.R.C.P. (Lond.). British. 11, The Avenue, Bedford Park, W. 4. Consulting Librarian and Bibliographer, The British Drug Houses, Ltd. Research Librarian, Tuberculosis Educational Institute. *Signed by :* T. F. Dixon, Frank Wokes, S. G. E. Stevens.

***Bisset, Norman Grainger,** A.R.C.S. Scottish. Buckland Cop, Betchworth. Research Assistant to the M.R.C. *Signed by :* G. Haslewood, F. H. Brain, R. V. G. Ewens, W. L. Gent.

Black, Robert Monro, B.Sc. (Lond.), not granted until July 1946. British. 234, Court Road, Eltham, S.E. 9. Research Chemist with British Insulated Callenders' Cables, Ltd. *Signed by :* G. M. Hamilton, D. H. Richardson, D. C. Hancock.

Blanco, John Rodriguez, B.Sc. (Lond.), A.R.I.C. British. 79, Oakington Manor Drive, Wembley. Industrial Research Chemist. *Signed by :* J. J. Wilson, C. K. Ingold, Henry Terrey.

Bloomfield, Cyril Josiah, B.Sc. (Lond.), F.R.I.C. British. 58, Edric Road, New Cross, S.E. 14. Research Chemist. *Signed by :* L. E. Hinkel, E. E. Ayling, J. E. Coates.

Bowler, Reginald George, B.Sc. (Lond.). British. 50, Ridgeview Road, Whetstone, N. 20. Chemist. *Signed by :* C. J. O. R. Morris, Jean Kollerstrom, H. Hoch.

Burden, Eugene Henry William James, Inter B.Sc. British. 145, Longwood Gardens, Ilford. Junior Chemist, Laboratory and Technical Services, Messrs. Allied Bakeries, Ltd. *Signed by :* R. D. Mason, R. Sufrin, E. de Barry Barnett.

***Brabin, Eric David.** British. 14, Delveen Avenue, Davyhulme, Manchester. Full time student for B.Sc.Hons. Chemistry at Manchester University. *Signed by :* G. N. Burkhardt, M. Polanyi, J. B. M. Herbert.

Broad, Donald William, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 60, Birchfield Road, Widnes. Research Chemist. *Signed by :* L. A. Haddock, L. J. Burrage, Mary E. Miller.

Brown, Annie Maude, B.Sc., A.R.I.C. British. 33, Hammelton Road, Bromley. Biochemist at the Wellcome Foundation Laboratories, Belmont, Sutton. *Signed by :* W. M. Duffin, Sydney Smith, C. G. Anderson.

***Brown, Gordon,** Inter. B.Sc. (Lond.). British. 33, New Road, Abbey Wood, S.E. 2. Experimental Assistant III, Chemical Inspection Department, Ministry of Supply. *Signed by :* A. H. Holloway, R. G. Monk, D. J. Barke.

Cocker, Eric, Inter. B.Sc. (Lond.). British. Glen Wild, Queens Road, Accrington. Assistant Research Chemist. *Signed by :* Cyril Lipman, A. P. Best, G. Thornhill.

Collie, George Alexander, B.Sc. and Ph.D. (St. Andrews), A.R.I.C. Five years experience in chemical industry. British. c/o Jicwood, Ltd., Weybridge. Chemist with Jicwood, Ltd., and Airscrew Coy., Ltd., Weybridge. *Signed by :* Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.

***Collings, Norman Hixon,** B.Sc. (Lond.). British. Southover, Borough Green, Sevenoaks. Development chemist working on the use of plastics as dielectrics. *Signed by :* Henry Terrey, A. A. New, J. N. E. Day.

Coulter, Michael Oliver, B.A.Hons. and B.Sc. (Oxon.), D.I.C. British. Imperial College, Chemical Engineering Department, Prince Consort Road, S.W. 7. Research Assistant on the staff of the Imperial College for Chemical Engineering Research. *Signed by :* Alfred C. Egerton, H. J. T. Ellingham, L. N. Owen.

***Cumming, Gordon,** A.R.I.C., A.C.T.C. (Birm.). British. 18, Abbey Crescent, Warley, Birmingham, 32. Student at Birmingham University. *Signed by :* S. R. Carter, M. Stacey, Stanley Peat.

Daroux, William Gerard, A.R.I.C., A.M.I.Chem.E. British. Courtaulds Limited, Foleshill Road, Coventry. Chemical Engineer. *Signed by :* Allan Hill, R. L. Wormell, H. Paul.

Defries, Ralph, F.R.I.C., M.I.I.A. British. c/o B.B. Chemical Co., Ltd. Ulverscroft Road, Leicester. Assistant Managing Director. *Signed by :* E. F. Mactaggart, Hubert H. Chambers, L. M. Mundy.

***Dick, Terence Anthony,** B.Sc.Hons. (Lond.), A.R.I.C. British. c/o Research Department, National Benzole Co., Ltd., 117–121, Scrubs Lane, N.W. 10. Research Chemist. *Signed by :* Keith H. V. French, J. D. Davies, R. A. Fraser, D. E. Kidder.

Dorner, Henry, Chemical Engineer (Prague). Czechoslovakian. 32, Meadway Court, Medway, N.W. 11. Chemist employed by Specialloid, Ltd. *Signed by :* M. J. Eichner, Edna M. F. Roe, C. W. Shoppee.

Drewitt, James Gordon Napier, B.A. (Oxon.), F.R.I.C. British. 3, Danes Court, Wembley Park. Research Chemist. *Signed by :* Frank Bryans, Bernard Ellis, George G. Richardson.

Duckworth, Donald Matthew, B.Sc.Hons. and M.Sc. (Manc.), A.R.I.C. British. 72a, Longridge Road, S.W. 5. Experimental Officer in the Ministry of Supply. *Signed by :* R. J. Cole, C. E. Hollis, I. Greenfield.

Duff, David John, B.Sc.Hons. (Glas.). British. c/o Jenkins, 133, Onslow Drive, Glasgow, E. 1. Works Chemist, The British Dyewood Co., Ltd., 367, Shettleston Road, Glasgow, E. 1. *Signed by :* F. Rumford, W. M. Cumming, I. Vance Hopper.

Dutton, Guy Gordon Studdy, B.A. (Cantab.), A.R.I.C. British. c/o The Sir John Cass Technical Institute, 31, Jewry Street, E.C. 3. Lecturer in Chemistry. *Signed by :* Cecil L. Wilson, E. de Barry Barnett, A. G. Lidstone.

Elliott, George, B.Sc.Hons. (Lond.), A.R.I.C. British. 46, Shaftesbury Road, Gosport. Analytical Chemist. *Signed by :* L. Crombie, A. J. M. Draper, Stewart A. Hood.

Elofson, Richard Macleod, B.Sc. (Alberta), B.Sc. and Ph.D. (Wisconsin). Canadian. 950, St. Urbain Street, Montreal, P.Q. Director of Research, Frank W. Horner, Limited. *Signed by :* Clifford B. Purves, Ivan R. McHaffie, W. D. McFarlane.

Embleton, James Robert, A.R.I.C. British. 103, Cardigan Terrace, Heaton, Newcastle-upon-Tyne, 6. Deputy Assistant Censor, Grade 1, Allied Central Commission for Germany (British Element), No. 2 District Civil Censorship Station, B.A.O.R. *Signed by :* H. E. Blayden, H. L. Riley, T. D. Smith.

Entwistle, Donald, B.Sc.Hons. (Manc.), A.R.I.C. British. 7, Broadway, Earlsdon, Coventry. Research Chemist with Messrs. Courtaulds, Ltd. *Signed by :* Reginald M. Lodge, Ernest E. Tallis, H. J. Hegan.

Falconer, William Alexander, B.Sc. (Glas.), A.R.T.C., A.R.I.C. British. Messrs. R.F.D. Co., Ltd., Textile Division, Catteshall Lane, Godalming. Works Chemist. *Signed by :* Alex. Findlay, R. Leslie Collett, H. J. T. Ellingham.

Feachem, George, M.A. and Ph.D. (Cantab.). English. 61, Church Road, Northwich. Research Chemist with I.C.I., Ltd. *Signed by :* J. R. Myles, C. N. Hinshelwood, G. D. Buckley, L. M. Clark.

Fried, Ernest, Ph.D. (Vienna). Austrian. 70, Bridge Lane, N.W. 11. Senior Chemist, J. Lyons & Co., The Laboratories, Hammersmith Road. *Signed by :* Leslie H. Lampitt, E. B. Hughes, G. E. Forstner.

***Galliver, George Bruce,** B.Sc.Hons. (Wales). British. Towy Vale, Elm Tree Avenue, Aberystwyth. Research Student in the Chemistry Department of U.C.W., Aberystwyth. *Signed by :* C. W. Davies, K. Heller, T. Campbell James.

***Garrod, Marjorie Ena,** B.A.Hons. (Cantab.). British. 14, Eastern Avenue, Pinner. Personal Assistant to the Director of The British Leather Manufacturers' Research Association. *Signed by :* D. Jordan Lloyd, T. A. Pressley, Kenneth G. A. Pankhurst.

Growney, Gerard, B.Sc.Hons. and M.Sc. (L'pool), A.R.I.C. British. 19, Station Road, Liverpool, 13. Chemist, Lever Bros., Port Sunlight, Ltd., Port Sunlight, Cheshire. *Signed by :* R. O. Griffith, T. P. Hilditch, W. B. Whalley.

***Gruenebaum, Heinz.** Higher National Certificate (Chemistry). German. Smedley House, 27, Smedley Lane, Manchester, 8. Junior Chemist, Sandor Products, Ltd., Trafford Park, Manchester. *Signed by :* Isaac Goodman, H. S. Boyd-Barrett, J. R. Holker.

Harper, Dorothy, B.Sc.Hons. (Lond.). British. The Islet, Maidenhead Court, Maidenhead. Information Officer, Fundamental Research Institute, Courtaulds, Ltd. *Signed by :* C. H. Bamford, B. A. Toms, J. Watson.

Harper, Frank Charles, B.Sc.Hons. and Ph.D. (St. Andrews). British. 13, Hunters Lane, Leavesden, Watford. Scientific Officer, Building Research Station, Department of Scientific and Industrial Research. *Signed by :* W. G. Grindle, D. G. R. Bonnell, F. L. Lea.

Harries, Gwynne Hughes, B.Sc. (Lond.), F.R.I.C. British. 3, Jevington, Wardle Road, Sale. Chief Chemist, Manchester Oil Refinery, Ltd. *Signed by :* H. K. Whalley, H. S. Boyd-Barrett, Wallace Taylor.

Harrison, Jack Blatchley, B.Sc. and Ph.D. (Leeds), A.R.I.C. British. Olicawa, 118, Radcliffe New Road, Whitefield. Chief Research Chemist and Director of Laboratories to Factice Manufacturers Association. *Signed by :* Chas. B. Featherstone, Chas. E. Webb, F. H. Montgomery.

Harvey, Elsie Nora, B.Sc. (Lond.), A.R.I.C. English. 28, Hillmore Grove, Sydenham, S.E. 26. Analytical Chemist, Messrs. W. J. Bush & Co., Ltd., Ash Grove, Hackney, E. 8. *Signed by :* L. J. Waller, H. M. Perry, R. E. Mitchell.

***Hayling, Maurice.** British. 43, Alvin Street, Gloucester. Student. *Signed by :* R. King, H. T. S. Britton, S. J. Gregg.

Henly, Albert Arthur, B.Sc.Hons. (Lond.), A.R.I.C. British. Endocrine Unit, London Hospital, Whitechapel, E. 1. Junior Biochemist, London Hospital. *Signed by :* C. J. O. R. Morris, H. Hoch, Jean Kollerstrom.

Holbrow, Gordon Leonard, B.Sc. (Lond.), A.R.I.C. British. 1, Pound Lane, Epsom. Research Chemist at the Paint Research Station, Teddington. *Signed by :* D. R. Duncan, S. H. Bell, D. A. Sutton.

Jackson, Robert Henry, B.Sc. and B.Pharm. (Lond.), Ph.C., F.R.I.C. British. 24, Sandgate Road, Hall Green, Birmingham, 28. Chief Chemist, Philip Harris, Ltd., 144–6, Edmond Street, Birmingham, 3. *Signed by :* W. F. Elvidge, Eric Kennedy, A. D. Powell.

James, John Charles, B.Sc., A.R.I.C. British. 41, Woodbery Avenue, North Harrow. Lecturer, Chemistry Department, Battersea Polytechnic, S.W. 12. *Signed by :* J. W. Smith, A. Houston, J. Kenyon.

***Jenkins, Aubrey Dennis,** Inter.B.Sc. (Lond.). British. 5, Eastcote Road, Welling. Student, King's College, London. *Signed by :* John R. Dewhurst, Eunice A. Bucknell, E. de Barry Barnett.

***Jewsbury, Alan,** B.Sc. (Lond.). British. Fair View, Finchdean Road, Rowlands Castle. Analytical Chemist, Admiralty Chemical Department, Portsmouth. *Signed by :* Elizabeth M. Potter, L. Crombie, Stewart A. Hood.

Jones, James Dennis, B.Sc. (Wales). British. 119, Gough Road, Edgbaston, Birmingham, 15. Chemist, Ryvita Co., Ltd., Bordesley Green, Birmingham, 9. *Signed by :* W. Rogie Angus, J. Cooper Duff, J. Newton Friend.

Jones, Kenneth William, B.Sc. (Lond.). British. 32, Dobell Road, Eltham, S.E. 9. Research Chemist, Ministry of Supply. *Signed by :* W. G. Williams, P. A. Savage, A. Butler.

Jones, Norman Ralph, B.Sc. (Lond.), F.R.I.C. British. 18, George Lane, S. Woodford, E. 18. Assistant Analyst to Dr. D. C. Garratt, Public Analyst and Consulting Chemist. *Signed by :* D. C. Garratt, Ronald S. Hatfull, C. K. Colwell.

***Kilham, John Kilvington,** B.Sc. and Ph.D. (Leeds), A.R.I.C. British. 11, Burton Avenue, Burton Stone Lane, York. Research Chemist (Arthur Duckham Research Fellow), Fuel Department, The University, Leeds, 2. *Signed by :* Frederick Challenger, E. Rothstein, H. Burton.

***Leadbeater, Bernard,** B.Sc.Hons. (Leeds), A.R.I.C. British. 6, Low Littlemoor, Mirfield. Research Student taking Ph.D. at Leeds in January 1946. *Signed by :* R. Whytlaw Gray, G. F. Smith, A. L. Roberts, L. A. Moignard, S. Wilson, Mark Guter.

Limmer, Bernard George, B.Sc. (Lond.), A.R.I.C. British. 233, Stifford Long Lane, Grays. Works Chemist, Tunnell Portland Cement Co., Ltd., West Thurrock. *Signed by :* Gerald Hopkinson, S. R. Bowden, A. V. Hussey.

Loveless, Leonard William James, B.Sc. (Lond.), A.R.C.S., D.I.C., A.M.I.Chem.E. British. 48, Montholme Road, Battersea, S.W. 11. Chemical Engineer employed by Messrs. Courtaulds, Ltd., Foleshill Road, Coventry. *Signed by :* C. Diamond, Allan Hill, H. Paul.

Low-Beer, Paul, Dr. Nat. (Prague). Austrian. 11, Eyre Court, N.W. 8. Chief Chemist, R. F. Reed, Ltd., Hertford Road, Barking. *Signed by :* S. G. Long, Berthold Deutsch, Ernest Katscher.

McCauley, Herbert Samuel, B.Sc. (Q.U.B.), A.R.I.C. British. 22, Chadwick Street, Lisburn Road, Belfast. Chief Chemist, P. R. Mallory & Co., Ltd., Castlereagh, Belfast. *Signed by :* Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.

Manners, Edward, B.Sc. (Lond.), A.R.I.C. British. 44, Willow Road, Enfield. Analytical and Research Chemist. *Signed by :* R. F. West, D. H. Richardson, H. J. S. King.

Marsh, Frank Gerald. British. 4, Castle Road, St. Albans. Chemist. *Signed by :* A. R. Bonar, F. W. Mitchell, E. Reid.

Matthews, William Kenneth, A.R.I.C. British. 9, Hillfoot Avenue, Speke, Liverpool, 19. Analytical Chemist with Messrs. Peter Spence & Sons, Ltd., Widnes. *Signed by :* J. Chatt, W. K. Bates, J. H. Harwood.

***Meadowcroft, Arthur Edward.** British. 18, Langton Road, Bournemouth. Assistant Research Chemist, Silicon-Organic Developments, Ltd. *Signed by :* Denis E. B. Greensmith, H. G. Emblem, Bruno Gluck.

Minkoff, Gregoire, D.-es-S. and Chem. Eng. (Geneva). British. 153a, Ruden Way, Epsom Downs, Surrey. Research Chemist, at The Distillers Co., Ltd., Research Department, Great Burgh, Epsom. *Signed by :* E. Horton, J. G. Maltby, G. J. Minkoff.

Moir, Murdo Logan, B.Sc.Hons. (Aberdeen), A.R.I.C. Scottish. Roy Cottage, Evanton, Ross and Cromarty. Captain, H.Q. 52 (Lowland) Division, B.A.O.R. *Signed by :* Alex. Findlay, R. Leslie Collett, H. J. T. Ellingham.

Mustafa, Ahmed, B.Sc.Hons., M.Sc. and Ph.D. (Fouad I Univ., Cairo). Egyptian. Fouad 1st University, Faculty of Science, Chemistry Department, Abbassia, Cairo. Lecturer in Organic Chemistry. *Signed by :* A. Schönberg, F. G. Baddar, G. Soliman.

Neal, Ronald Stephen, B.Sc.Hons. (Lond.), A.R.I.C. British. The Woodlands, Crescent Road, Crumpsall, Manchester, 8. Research Chemist. *Signed by :* A. G. Murray, W. A. Sexton, F. R. Basford.

Palmer, Frederick Georgeson, A.R.I.C. British. 26, Dilston Terrace, Primrose, Jarrow-on-Tyne. Research Chemist, Synthetic resin and paint technology. *Signed by :* Robert Wilson, J. Keaton, H. L. Hutton.

Parker, Cecil Allen, B.Sc.Hons. (Lond.), A.R.I.C. British. 7b, Denby Road, Poole. Temporary Experimental Officer, Naval Ordnance Inspection Laboratories, Holton Heath. *Signed by :* T. C. J. Ovenston, C. K. Ingold, Henry Terrey.

Perren, Edward Arthur, B.Sc.Hons. and Ph.D. (Lond.), A.R.C.S., F.R.I.C. British. Chemistry Section Experimental Station, Porton, Wilts. Research Chemist. *Signed by :* Stanley A. Mumford, S. R. Finn, J. Howarth Williams.

Porter, Hubert Thomas, B.Sc.Hons. (Lond.), A.R.I.C. British. 76, Sandleigh Road, Leigh-on-Sea. Chief Technical Assistant, Chemical Industries Branch, Control Commission for Germany. *Signed by :* L. H. Cobb, Robert T. Easton, H. J. T. Ellingham.

***Pride, Ralph Robert Alexander,** B.Sc. (St. Andrews), A.R.I.C. British. 5, Lane Way, Roehampton, S.W. 15. Chemist with Research Department of the Distillers Coy., Ltd. *Signed by :* M. P. Balfe, J. Kenyon, A. Houston.

***Raw, Francis William.** British. 86, Fielding Lane, Oswaldtwistle, Accrington. Research Assistant to Messrs. Dickinson & Son, Fine Chemical Manufactures, Oswaldtwistle. *Signed by :* G. Watson, Edw. S. Forber, H. Catlow.

Rice, Alexander Pershing. British. 41, Clifton Road, Crouch End, N. 8. Chemical research with Messrs. Thorn Electrical Industries, Ltd. *Signed by :* D. H. Richardson, H. J. S. King, G. David Reynolds.

Rose, Charles Francis Matthew, A.R.I.C. British. 32, St. Mary Avenue, Wallington. Biochemist. *Signed by :* A. E. Wilder Smith, A. C. Bottomley, E. R. Smith.

Sainter, Philip, B.Sc.Tech. (Manc.), A.M.C.T., A.R.I.C. British. Southlands, Highfield Road, Pontefract. Chemical Engineer, Research Department, I.C.I. Dyestuffs Division, Hexagon House, Blackley, Manchester. *Signed by :* W. R. Boon, G. R. Ramage, H. C. Carrington.

Seidman, Martin, A.B. (Brooklyn). American. 119, N. Husband Street, Stillwater, Oklahoma. U.S. Army, attending Birmingham University under T.W.C.A. programme. *Signed by :* L. L. Bircumshaw, M. Stacey, P. W. Kent.

***Sherman, Philip,** B.Sc.Hons. (Leeds). British. 24, Portland Crescent, Woodhouse Lane, Leeds, 7. Assistant Chemist, Messrs. Victor Wolfe, Ltd., Manchester. *Signed by :* Frederick Challenger, W. A. Wightman, E. Rothstein.

***Shorter, John.** English. School House, London Road, Merstham. Student for an Honours Degree in Chemistry at Exeter College, Oxford. *Signed by :* S. G. P. Plant, H. W. Thompson, J. H. Wolfenden.

Simmons, Eric Arthur, A.R.I.C., British. 18, Cayton Road, Greenford. Industrial Chemist. *Signed by :* Edward W. Pates, E. Lester Smith, N. C. Jeffery.

Smith, Sydney Gordon, B.Sc. (Lond.), A.R.I.C. British. 33, Lincoln Court, London Road, Enfield. Research Chemist, The Ruberoid Co., Ltd., Enfield. *Signed by :* J. Cooper Duff, H. J. T. Ellingham, R. Leslie Collett.

Somade, Babatunde, B.Sc. (Lond.), A.R.C.S. Nigerian. 111, Castle Road, N.W. 1. Research Student. *Signed by :* L. N. Owen, J. A. Kitchener, J. R. Catch.

Speed, Kenneth Ian, B.Sc. (Lond.), to be awarded in July, 1946. British. 12, Church Hill, Winchmore Hill, N. 21. Research Chemist. British Insulated Callender's Cables. *Signed by :* G. M. Hamilton, D. C. Hancock, D. H. Richardson.

Spencer, Wilfrid Devonshire, B.Sc. and Ph.D. (Lond.), F.R.I.C. British. 6, Salisbury Avenue, Coventry. Development Chemist with Messrs. Courtaulds, Ltd. *Signed by :* F. Stanley Brown, Allan Hill, R. L. Wormell.

***Sutton, Joan Dixon,** B.Sc.Hons. (Dun.). British. 9, Dene View, South Gosforth, Newcastle-upon-Tyne, 3. Research Chemist at King's College, Newcastle-upon-Tyne, 1. *Signed by :* Richard Raper, G. R. Clemo, Wesley Cocker.

Taylor, Reginald David, A.R.I.C. British. 43, High Street, Lye, Stourbridge. Research Chemist. *Signed by :* J. Hofton, W. Blakey, W. F. A. Thorpe.

Townsend, Wilfred Norman, B.Sc. (Leeds). British. Department of Agriculture, The University, Leeds, 2. Assistant Lecturer in Agricultural Chemistry. *Signed by :* Norman N. Comber, H. Burton, J. W. Baker.

***Wellington, Charles Walter.** British. 122, Alscot Road, Bermondsey, S.E. 1. Analytical Chemist. *Signed by :* John L. Horton, R. C. Watkins, Harold Heron.

***Whynes, Allan Leonard,** B.Sc.Hons. (Lond.). British. Broughton, Bramford, Ipswich. Inorganic Research for Ph.D. at Queen Mary College. *Signed by :* J. R. Partington, D. C. Jones, B. E. Cross.

Wilson, John Pierce, M.Sc. (N.U.I.), D.Phil. (Oxon.). Irish. Department of Chemistry, University College, Cork. Research Chemist at Dyson Perrins Laboratory, Oxford. *Signed by :* Ronald P. Bell, R. Robinson, F. E. King.
Wood, Herbert Leslie, B.Sc.Hons. (Leeds). British. 40, Iris Crescent, Bexleyheath. Experimental Officer, Armament Research Department, Ministry of Supply. *Signed by :* Peter A. Savage, A. Butler, W. G. Williams.
athiraja, Arcot Ranganatham, B.Sc. (Madras), A.I.I.Sc. (Bangalore), A.R.T.C. (Glas.), A.R.I.C. British Indian. Prabha, Besant Avenue, Adyar, Madras. Sugar Technologist and Chemical Engineer, Sri Rama Sugar Mills, Ltd., Bobbili, Vizagapatam. *Signed by :* Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

***Djerassi, Carl,** A.B. (Kenyon), Ph.D. (Wisconsin). American. Ciba Pharmaceutical Products, Inc., Summit, New Jersey. Research Chemist (Ciba). *Signed by :* S. M. McElvain, Homer Adkins.
Driel, Jan van. Netherlander. F.C. Dondersstraat, 61, Utrecht, The Netherlands. Student of Chemistry. *Signed by :* J. P. Wibaut.
Durocher-Yvon, Felix, Dip. Agric. (Mauritius). British. Mahe, Seychelles. Assistant Agricultural Officer, Seychelles Government. *Signed by :* E. Collins, Gerard Staub.
Hochwalt, Carroll Alonzo, B.Ch.E. and D.Sc. (Dayton). American. Rahn Road, R.R. 7, Dayton, 9, Ohio. Central Research Director, Monsanto Chemical Co. *Signed by :* David T. Mowry.
Horn, Denis Herbert Suttle, M.Sc. (South Africa). Union National. 123, Morcom Road, Pietermaritzburg, Natal. Ph.D. (Organic Chemistry) Student. *Signed by :* F. L. Warren.
Isler-Stickelberger, Otto. Ing. Chem., Dr. Tech. (Zurich). Swiss. Riehenstrasse 57, Basel. Chemist in Research Department of F. Hoffmann–La Roche & Co., Basel. *Signed by :* Franz Bergel, M. Guggenheim.
Israelashwili, Shalom, M.Sc. and Ph.D. (Hebrew University). Palestinian. P.O. Box 118, Jerusalem. Junior Assistant of the Department of Organic Chemistry, Hebrew University, Jerusalem. *Signed by :* A. Fodor, L. Haskelberg.
Jeannerat, Jean, Ing. Chem. and D.-es-S. (Geneva). Swiss. F. Hoffmann–La Roche, 59, Rue Pasteur, Fontenay s/Bois (Seine). Head of Laboratories, F. Hoffmann–La Roche. *Signed by :* F. Bergel.
Jensen, Einar, M.Sc. and Ph.D. (Oslo). Norwegian. Meltzens Gate 1, Oslo. Lecturer, Inorganic Chemistry, Oslo University. *Signed by :* Bailli Nilssen.
Kathju, Praneshwar Nath, M.Sc. (Allahabad), A.R.I.C. Indian. Usta-ka-Bagh, Moti Dungri Road, Jaipur City, Rajputana. Industrial Consultant. *Signed by :* H. Krall.
McClure, Denis, M.P.S. British. 13a, Selkirk Road, Mount Albert, Auckland. Ceramic Chemist. *Signed by :* Alfred J. Parker.
Olander, Arne, Ph.D. Swedish. Department of Inorganic and Physical Chemistry, The University, Stockholm, 6. Professor of Inorganic and Physical Chemistry. *Signed by :* H. v. Euler.
Theimer, Ernest Theodore, A.B. and M.A. (Cincinnati), Ph.D. (New York). American. van Ameringen-Haebler, Inc., 417, Rosehill Place, Elizabeth, New Jersey, U.S.A. Research Chemist. *Signed by :* Harry H. Sobotka.
Van Oss, Jacob Frederick, D.Sc. (Amsterdam). Hollander. Amsterdam Zd, Rubensstraat, 80, Holland. Consulting Engineer. *Signed by :* J. P. Wibaut.
***Venkitasubramanian, Tatkamangalam Ananthanarayana Iyer,** B.Sc. (Madras). Indian. Lady Tata Memorial Research Scholar, Maharaja's College, Ernakulam, Cochin State. Research work in organic chemistry. *Signed by :* M. R. Natarajan.
Westerberg, Bo. S. Swedish. Swedish Legation, 22, Portland Place, W. 1. Special Attache, Swedish Legation. *Signed by :* H. de Laszlo.

*** Reduced annual subscription.**

PAPERS RECEIVED

List of papers received between December 6th, 1945, and January 3rd, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal.*)

"The viscosities and structures of acid chlorides and amides." By J. Newton Friend and W. A. Hargreaves.
"The infra-red spectra of mercaptans, sulphides, and disulphides." By I. F. Trotter and H. W. Thompson.
"Syntheses in the indole series. Part II. Derivatives of β-keto-β-3-indolyl propionic acid." By J. W. Baker.
"The constitution of damson gum. Part III. Hydrolysis products from methylated damson gum." By E. L. Hirst and J. K. N. Jones.
"A new preparation of 7 : 8-benzoflavone (α-naphthoflavone)." By F. E. Smith.
"The sorption of vapours by ferric oxide gel. Part II." By D. W. Broad and A. G. Foster.
"The further nitration of 1 : 3-, 1 : 6-, 2 : 6-, and 2 : 7-dinitronaphthalene and the preparation of 1 : 3 : 6-trinitronaphthalene." By H. H. Hodgson and E. R. Ward.
"The preparation of N^4-carboxyacylsulphonamides. Part I. Reactions of succinimidobenzenesulphonyl chloride and succinylsulphanilyl chloride." By C. W. Picard, E. Reid, and D. E. Seymour.
"Conversion of hydroquinidine into hydrocinchonine and of cupreine into cinchonidine." By H. King.

"Researches on acetylenic compounds. Part V. αβ-Acetylenic hydroxy-acids." By L. J. HAYNES and E. R. H. JONES.

"1-(*m*-Hydroxyphenyl)-3-(*p*-hydroxyphenyl)-hexane and 1-(*m*-hydroxyphenyl)-3-(*p*-hydroxyphenyl)-hexene." By B. J. F. HUDSON.

"The reconversion of *D*-homoandrostane compounds to derivatives of *allo*pregnane." By D. A. PRINS and C. W. SHOPPEE.

"The application of the method of molecular rotation differences to steroids. Part II. Unsaturated sterols and their derivatives." By D. H. R. BARTON.

"The molar polarisation of solutions of aniline in benzene." By H. G. EMBLEM and C. A. MCDOWELL.

"A constitutional synthesis of cellobiose and gentiobiose." By VIOLET E. GILBERT, F. SMITH, and M. STACEY.

"Tetra-acetyl glucosone hydrate. A novel route to the syntheses of analogues of ascorbic acid and a possible mechanism for the transformation of hexoses into kojic acid." By M. STACEY and LILIAN M. TURTON.

"The action of alkaline reagents on 2 : 3-1 : 6- and 3 : 4-1 : 6-dianhydro-β-talose. A constitutional synthesis of chondrosamine and other amino-sugar derivatives." By SYBIL P. JAMES, F. SMITH, M. STACEY, and L. F. WIGGINS.

"Basic derivatives of cholane and norcholane." By SYBIL P. JAMES, F. SMITH, M. STACEY, and M. WEBB.

"Amino steroids. Part I. α- and β-forms of 7-aminocholesterol." By JEAN BARNETT, BRENDA E. RYMAN, and F. SMITH.

"Amino steroids. Part II. Preparation of 3 : 7-diketocholestene." By JEAN BARNETT, BRENDA E. RYMAN, and F. SMITH.

"Amino steroids. Part III. Some mono- and diamino-steroids." By JEAN BARNETT, BRENDA E. RYMAN, and F. SMITH.

"Note on the production of coumarin derivatives by condensation of *o*-hydroxyaldehydes with $\Delta^{\beta:\gamma}$-angelicalactone." By D. H. MARRIAN and P. B. RUSSELL.

"An investigation of some coloured iminazolidines derived from theobromine." By A. R. TODD and N. WHITTAKER.

"Rearrangements of aldoximes into amides with Raney nickel. Stereoisomeric geranamides." By A. G. CALDWELL and E. R. H. JONES.

"Contributions to the chemistry of synthetic antimalarials. Part III. A ring-opened analogue of tetrahydro-pamaquin." By H. J. BARBER, F. W. MAJOR, and W. R. WRAGG.

"New potential chemotherapeutic agents. Part V. Basically-substituted *iso*alloxazines." By F. E. KING and R. M. ACHESON.

"*p*-Aminodimethylaniline. Part III. The orientation of groups in the disubstituted molecule." By E. E. AYLING, J. H. GORVIN, and L. E. HINKEL.

"Attempted preparation of a hydroxylated provitamin-*D*." By V. A. PETROW and W. W. STARLING.

"An electrical sorption balance." By S. J. GREGG.

"An electrical sorption balance and calorimeter." By S. J. GREGG.

"The constitution of yohimbine. Part I." By G. R. CLEMO and G. A. SWAN.

"The chemistry of carcinogenic nitrogen-compounds. New derivatives of the angular benzacridines and of some related nuclei." By NG. PH. BUU-HOI.

"The constitution of santonin. Part IV." By G. R. CLEMO, WESLEY COCKER, and S. HORNSBY.

"Fries reaction. II. On the nature of the substance described as 2-hydroxy-1-benzoyl naphthalene (m. p. 175°)." By A. SCHÖNBERG and A. MUSTAFA.

"The constitution of the dimeric permanganate coloured diphenyl ketene." By A. SCHÖNBERG and ALY SINA.

TECHNOLOGY DEPT.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (Burlington House).

Thursday, May 16th, 1946, at 5 p.m.

Meeting for the reading of the following papers:

"Strychnine and brucine. Part XLII. Constitution of the *neo*-series of bases and their oxidation products." By L. H. Briggs, H. T. Openshaw, and R. Robinson.*

"The reconversion of *D*-homo androstane compounds to derivatives of androstane." By D. A. Prins and C. W. Shoppee.*

BIRMINGHAM.

Thursday, April 25th, 1946.

Hundred and Fifth Annual General Meeting of the Chemical Society.

To be held at the University of Birmingham.

12 noon.	Business meeting.
1 p.m.	Reception and Luncheon at the University of Birmingham.
3 p.m.	Presentation to Mr. S. E. Carr.
	Presidential Address.
	Installation of New President.

Full particulars have been circulated to Fellows.

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MANCHESTER.

Tuesday, May 7th, 1946, at 6 p.m.

Lecture, **Recent Developments in Polynucleotide Chemistry,** by Professor J. M. Gulland, D.Sc., F.R.S.

To be held in the Chemistry Lecture Theatre of the University.

NEWCASTLE AND DURHAM.

Friday, May 10th, 1946, at 5.30 p.m.

Bedson Club Lecture, **Whither Chemistry ?,** by Sir Robert Pickard, D.Sc., Ph.D., F.R.S.

To be held in King's College, Newcastle-on-Tyne, and all Fellows are invited.

ST. ANDREWS AND DUNDEE.

Monday, April 15th, 1946, at 5 p.m.

Lecture, **Rheology—the Study of the Deformation and Flow of Matter.**

To be held in the Chemistry Department, University College, Dundee.

SHEFFIELD.

Friday, May 3rd, 1946, at 5.30 p.m.

Lecture, **Vitamin A,** by Professor R. A. Morton, D.Sc., F.R.I.C.

Joint meeting with the University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

* To read paper.

SOUTHAMPTON.

Friday, May 3rd, 1946, at 5 p.m.

Lecture, **The Chemistry of Penicillin,** by Professor Sir Ian Heilbron, D.S.O., D.Sc., LL.D., F.R.S.

Friday, May 17th, 1946, at 5 p.m.

Lecture, **Nucleoproteins,** by Professor J. M. Gulland, D.Sc., F.R.S.

Friday, May 24th, 1946, at 5 p.m.

Lecture, **Structural Inorganic Chemistry,** by Professor W. Wardlaw, D.Sc., F.R.I.C.

Joint meetings with the University College Chemical Society to be held in the Physics Lecture Theatre of University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held in Department of Chemistry, University of Glasgow, on Friday, February 15th, 1946, at 5.30 p.m.

After an official welcome of the Society to the University of Glasgow by Sir Hector Hetherington, Principal and Vice-Chancellor of the University, the President, Professor W. N. Haworth, D.Sc., F.R.S., took the Chair.

FORMAL ADMISSION OF FELLOWS.

The following were formally admitted Fellows of the Society: S. C. Abrahams, H. G. A. Anderson, Miss Mary Andross, N. Barton, H. Burman, J. R. Campbell, T. Cottrell, J. Crawford, J. M. Ferguson, W. Graham, J. W. Hawley, R. Hicks, I. V. Hopper, J. W. Kerr, M. Littlejohn, A. McLean, J. McLean, D. C. Martin, E. M. Melville, F. D. Miles, S. Mitchell, J. Munro, N. Percy, D. M. Ross, J. Shorter, A. R. Somerville, D. M. Stead, Miss E. F. M. Stephenson, T. S. Stevens, F. R. Storrie, J. Sword, T. Templeton, W. G. D. Wright.

TILDEN LECTURE.

Dr. W. A. Waters delivered the Tilden Lecture entitled "Some Recent Developments in the Chemistry of Free Radicals."

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, London, W. 1, on Thursday, March 7th, 1945, at 5 p.m.

The President, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on February 7th at Burlington House and on February 15th at the University of Glasgow were taken as read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: P. W. Arnold, J. F. Osborne, A. Herzka, H. L. Peerman, G. Parsons, A. J. Parts, L. E. Abbott, G. M. Hills, M. E. Foss, L. M. Miall.

PEDLER LECTURE.

The PRESIDENT called on Professor A. R. Todd, D.Sc., F.R.S., to deliver his Pedler Lecture, entitled "Synthesis in the Study of Nucleotides."

At the conclusion of the lecture, a vote of thanks to the Lecturer, proposed by Sir Robert Robinson and seconded by Professor J. M. Gulland, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Augustus Edward Dixon (Kent)	1885	Mar. 3rd, 1946.
Herbert Ingle (Stockport)	1889	Oct. 8th, 1945.
Charles Walter Martin (Birmingham)	1943	Feb. 13th, 1946.

CONGRATULATIONS.

The congratulations of the Council have been conveyed to the following Fellows who completed 60 years of Fellowship on March 4, 1946.

Arthur Percy Hoskins (Belfast).
Arthur Pillans Laurie (Hindhead).
William Thomas Wright (Sheffield).
Brougham Young (London).

and to the following who completed 50 years of Fellowship on February 20th, 1946:

John Allen (Manchester).
William Henry Barker (London).
William Henry Bentley (Wirral).
Joseph Edwin Alger Blyde (Sheffield).
Thomas Ewan (Strathblane).
Ernest Haynes Jeffers (Chelmsford).
Thomas Francis Rutter (Braunton).
Charles Edward Sage (London)

The President sent a telegram of congratulation to Dr. Bernard Dyer, Senior Fellow of the Society, on the occasion of his 90th birthday on February 25th. Dr. Dyer completed 70 years of Fellowship on December 16th, 1945.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. H. Auden, Dr. A. F. Campbell, Mr. J. C. Jewell, Miss D. Patterson, and Wellcome Chemical Research Laboratories for gifts of publications of the Society.

TILDEN LECTURES 1946—1947.

Dr. A. E. Alexander and Dr. M. Stacey have accepted the invitation of the Council to deliver the Tilden Lectures during the session 1946—1947.

GERMAN BOOKS.

A list has been prepared of some books on pure and applied chemistry published in Germany and Austria during the years 1939—1944.

The list contains some 300 items, and a copy may be consulted in the Library.

LIBRARY.

The Library will be closed for the Easter Holidays from 1 p.m. on Thursday, April 18th, to 10 a.m. on Wednesday, April 24th.

ELECTION OF NEW FELLOWS.

The following 110 candidates were elected Fellows of the Society on March 7th, 1946:

Keith William Allen.
Winston Kennay Anslow.
Martin Apley.
Arthur Thomas Austin.
George Albert Barber.
Walter Reginald Bett.
Norman Grainger Bisset.
Robert Monro Black.
John Rodriguez Blanco.
Cyril Josiah Bloomfield.
Reginald George Bowler.
Eugene Henry William James Burden.
Eric David Brabin.
Donald William Broad.
Annie Maude Brown.
Gordon Brown.
Eric Cocker.
George Alexander Collie.
Norman Hixon Collings.
Michael Oliver Coulter.
Gordon Cumming.
William Gerard Daroux.
Ralph Defries.
Terence Anthony Dick.
Carl Djerassi.
Henry Dorner.
James Gordon Napier Drewitt.
Jan van Driel.
Donald Matthew Duckworth.
David John Duff.
Felix Durocher-Yvon.
Guy Gordon Studdy Dutton.
George Elliott.
Richard Macleod Elofson.
James Robert Embleton.
Donald Entwistle.
William Alexander Falconer.
George Feachem.
Ernest Fried.
George Bruce Galliver.
Marjorie Ena Garrod.
Gerard Growney.
Heinz Gruenebaum.
Dorothy Harper.
Frank Charles Harper.
Gwynne Hughes Harries.
Jack Blatchley Harrison.
Elsie Nora Harvey.
Maurice Hayling.
Albert Arthur Henly.
Carroll Alonzo Hochwalt.
Gordon Leonard Holbrow.
Denis Herbert Suttle Horn.
Otto Isler-Stickelberger.
Shalom Israelashwili.
Robert Henry Jackson.
John Charles James.
Jean Jeannerat.
Aubrey Dennis Jenkins.
Einer Jensen.
Alan Jewsbury.
James Dennis Jones.
Kenneth William Jones.
Norman Ralph Jones.
Praneshwar Nath Kathju.
John Kilvington Kilham.
Bernard Leadbeater.
Bernard George Limmer.
Leonard William James Loveless.
Paul Low-Beer.
Herbert Samuel McCauley.
Denis McClure.
Edward Manners.
Frank Gerald Marsh.
William Kenneth Matthews.
Arthur Edward Meadowcroft.
Gregoire Minkoff.

Murdo Logan Moir.
Ahmed Mustafa.
Ronald Stephen Neal.
Arne Olander.
Frederick Georgeson Palmer.
Cecil Allen Parker.
Edward Arthur Perren.
Hubert Thomas Porter.
Ralph Robert Alexander Pride.
Francis William Raw.
Alexander Pershing Rice.
Charles Francis Matthew Rose.
Philip Sainter.
Martin Seidman.
Philip Sherman.
John Shorter.
Eric Arthur Simmons.
Sydney Gordon Smith.
Babatunde Somade.
Kenneth Ian Speed.
Wilfrid Devonshire Spencer.
Joan Dixon Sutton.
Arcot Ranganatham Yathiraja.
Reginald David Taylor.
Ernest Theodore Theimer.
Wilfred Norman Townsend.
Jacob Frederick Van Oss.
Tatkamangalam Ananthanarayana Iyer Venkitasubramanian.
Charles Walter Wellington.
Allan Leonard Whynes.
Bo. Stensson Westerberg.
John Pierce Wilson.
Herbert Leslie Wood.

MEETINGS OUTSIDE LONDON.

EDINBURGH.

"Some Problems in Polysaccharide Chemistry," by Professor E. L. Hirst, M.A., D.Sc., F.R.S.

A joint meeting of the Society with the Local Section of the Royal Institute of Chemistry and the Society of Chemical Industry was held on February 22nd, at 7.30 p.m., in the North British Station Hotel, Edinburgh, Dr. E. G. V. Percival being in the Chair. In his highly stimulating address, Professor Hirst reviewed both old and new methods of attack. A lively discussion followed, in which Dr. Neil Campbell, Dr. M. A. Phillips, Dr. F. H. King, Mr. W. Forsyth, and Dr. R. C. Menzies participated and Dr. W. O. Kermack, F.R.S., proposed the vote of thanks which was carried with great enthusiasm.

"Trace Elements in Agriculture," by Dr. W. G. Ogg, M.A., Director of the Rothamsted Experimental Station.

A joint meeting of the Chemical Society and the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held on March 22nd, at 7.30 p.m., in the North British Station Hotel, with Dr. Percival in the Chair. Dr. Ogg gave a stimulating account of the present state of our knowledge of trace elements, boron, manganese, etc., and their effect on plant growth. A most valuable discussion followed in which Drs. James Stewart, A. M. Smith, R. C. Menzies, M. A. Phillips, W. O. Kermack, F.R.S., Sir Edward Bailey, F.R.S., H. B. Nisbet, and Messrs. G. B. Yuille, E. P. Hudson, and G. Halek participated. Professor S. J. Watson proposed the vote of thanks which was carried with great enthusiasm.

EIRE.

Lecture: "The Structure and Enzymic Synthesis of Starch," by Professor W. N. Haworth, D.Sc., F.R.S., President of the Society.

A most successful meeting of the Eire Local Section was held in the Department of Chemistry, Upper Merrion Street, Dublin, on February 26th, 1946. Professor T. S. Wheeler, Local Representative, presided, and there was a large attendance. The President delivered a lecture illustrated by slides on "The Structure and Enzymic Synthesis of Starch." He outlined the work of the Birmingham School on amylose and amylopectin and on the synthesis of starch in the plant, the respective rôles of the *P*- and *Q*-enzymes being described. The vote of thanks which was carried with acclamation was proposed by Professor A. O'Farrelly and seconded by Dr. V. Barry. Before the meeting the President and Mrs. Haworth were entertained to dinner by the Members of the Local Section. During his stay in Dublin, the President visited Guinness's Brewery and the Chemical Departments of Trinity and University Colleges; he was received by the Taoiseach, Mr. De Valera. He was also the Guest of Honour at the annual dinner of Cumann Ceimicidhe nah Eireann (Irish Chemical Association).

LEEDS.

"Crystal Analysis as a Clue to Chemical Problems," by Mrs. Kathleen Lonsdale, D.Sc., F.R.S.

A joint meeting with the Leeds University Chemical Society was held on March 5th in the Chemistry Department, University of Leeds, Professor E. G. Cox being in the Chair. Dr. Lonsdale described the early history of X-ray analysis and its use in the determination of the structure of molecules, and in chemical identification. At the conclusion of the lecture Professor W. T. Astbury referred to the part played by the lecturer in the development of crystal analysis. A vote of

thanks proposed by Dr. J. MacArthur and seconded by Miss M. I. Simpson was carried with acclamation. The lecture was preceded by films entitled "Handle with Care" and "Buried Treasure."

MANCHESTER.

A meeting for the reading of original papers was held on March 14th in the Chemistry Lecture Theatre of the University, Dr. A. E. Gillam being in the Chair.

(*a*) "The Diffusion of Dyes into an Absorbing Medium," by H. A. Standing and J. O. Warwicker.

(*b*) "Aspergillic Acid. A Synthesis of a racemic 2-hydroxy-3 : 6-di-*sec.*-butylpyrazine and its relationship to Deoxyaspergillic Acid," by G. T. Newbold and F. S. Spring.

(*c*) "Pyrolysis of organic compounds: Preparation of some conjugated dienes," by H. Gudgeon, R. Hill, and E. Isaacs.

(*d*) "Experiments on the Scholl Reaction," by G. Baddeley and J. Kenner.

NORTHERN IRELAND.

Lecture: "The Structure and Enzymic Synthesis of Starch," by Professor W. N. Haworth, D.Sc., F.R.S., President of the Society.

The President delivered the above lecture in the Chemical Lecture Theatre of Queen's University of Belfast on Monday, March 4th. The Chair was taken by Professor H. Wren. The theatre was filled to capacity. Professor Haworth introduced his subject by giving a brief history of work on starch, and went on to give a graphic and stimulating account of very recent work. The lecture was illustrated by means of lantern slides and was followed by an animated discussion. In conclusion a vote of thanks proposed by Dr. Reid and seconded by Professor Small, was carried with acclamation. The lecture followed a series of visits by the President to various research centres in Belfast.

NORTH WALES.

"The Structure of Boron Hydrides and Related Compounds," by Mr. R. P. Bell, M.A., F.R.S.

The meeting was held jointly with the University College of North Wales Chemical Society on February 21st, Mr. Colin Eaborn occupying the Chair. Mr. Bell reviewed existing experimental evidence on the structure of these compounds, and discussed possible theoretical interpretations of these data. A vote of thanks, proposed by Dr. W. Rogie Angus and seconded by Mr. R. K. Richardson, was carried with enthusiasm.

NOTTINGHAM.

"Colchicine, its Chemistry and some Biological Effects." By Professor J. W. Cook, D.Sc., F.R.S.

A meeting was held on January 25th, at University College, Professor J. M. Gulland, D.Sc., F.R.S., being in the Chair. Professor Cook first described the biological properties of Colchicine, dealing especially with its action as a mitotic poison and then proceeded to discuss its chemical structure. After an interesting discussion, Dr. D. O. Jordan, on behalf of the audience, thanked Professor Cook for his lecture.

SHEFFIELD.

"Light Absorption from a Chemical Standpoint," by Mr. E. J. Bowen, M.A., F.R.S.

A joint meeting with the University Chemical Society was held on February 8th at the University with Professor R. D. Haworth, F.R.S., in the Chair. Mr. Bowen outlined the principles underlying the application of quantum mechanics to chemical problems. Consideration was given to the mechanism of the absorption of radiation by molecules, with special reference to colour, to the optical anisotropy of molecular crystals, and to effects attributable to particular groupings of atoms within the molecule. After an interesting discussion, a vote of thanks to the lecturer proposed by Dr. J. C. Speakman and seconded by Mr. Nightingale was carried with acclamation.

"Some Aspects of the Chemistry of Mono- and Di-Sulphide Links," by Professor F. Challenger, D.Sc.

At the University on March 8th another joint meeting with the University Chemical Society was held under the chairmanship of Professor R. D. Haworth, F.R.S. After a brief historical

survey of the biological methylation of derivatives of arsenic, sulphur, selenium, and tellurium, Professor Challenger gave an interesting summary of the methylation of the $C_nH_{2n+1}S$ group and the fission of the disulphide link $C_nH_{2n+1}S–SC_nH_{2n+1}$ by *S. brevicaulis*. The mechanism of biological methylation was discussed, and the significance of du Vigneaud's experiments using isotopic indicators examined. Following on an interesting discussion, a vote of thanks to Professor Challenger, proposed by Dr. Mabel L. Haigh and seconded by Mr. Neville Smith, was carried with enthusiasm.

SOUTH WALES.

" Recent Work on Soil Biochemistry," by Dr. J. H. Quastel, F.R.S.

A meeting of the Chemical Society was held jointly with the local sections of the Society of Chemical Industry and The Royal Institute of Chemistry on February 22nd, 1946, at University College, Cardiff. The Chair was taken by Mr. W. D. Williams, Chairman of the local section of the Royal Institute of Chemistry. In his lecture, Dr. Quastel, of the Agricultural Research Council, described the work of his unit in this field. He stressed the importance of studying soil as a biological whole, and indicated the wide scope of investigation open to the chemist and biochemist in soil pathology. He dealt in some detail with his recent work on nitrogen and manganese metabolism in soil. After a keen discussion, in which many members took part, a vote of thanks to the lecturer was proposed by Dr. J. Gough, seconded by Mr. R. G. Minor and carried with enthusiasm.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than April 30th, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Acheson, Richard Morrin,** B.A.Hons. (Oxon.). British. 2, Regent Street, Oxford. Research in Organic Chemistry. *Signed by :* Ronald P. Bell, F. E. King, L. E. Sutton.

Aldred, John, A.R.I.C. British. C.W.S. Paint Works, Stockbrook Street, Derby. Works Manager. *Signed by :* F. Schollick, S. H. Bell, C. H. Young.

Allen, Leslie Alfred, D.Sc. and Ph.D. (Lond.), M.Sc. (Reading), F.R.I.C. British. Water Pollution Research Laboratory, Langley Road, Watford. Senior Scientific Officer, Department of Scientific and Industrial Research. *Signed by :* T. W. Brandon, W. H. J. Vernon, F. Wormwell.

***Aller, Basil Vivian,** B.Sc.Hons. (Lond.), A.R.I.C. British. The Corner House, Deepdene Drive, Dorking. Chemist. *Signed by :* H. J. Foxcroft, J. W. Smith, G. H. Green.

Askam, Vernon, Ph.C. British. 82, Park Chase, Wembley. Demonstrator in Chemistry, College of The Pharmaceutical Society, University of London. *Signed by :* Wilfred H. Linnell, W. J. Arrol, A. D. Mitchell.

Bailey, John Leggett, B.Sc. (Lond.), A.R.C.S., A.R.I.C. British. c/o Research Laboratory, Wolsey, Ltd., Abbey Park Mills, Leicester. Research Chemist. *Signed by :* H. V. A. Briscoe, A. A. Eldridge, Ernest R. S. Winter.

***Blades, Alan Edward,** B.Sc.Hons. (Lond.), A.R.I.C. British. 48, Falmouth Street, Cottingham Road, Hull. Student. *Signed by :* L. Balmforth, P. J. Hawkins, M. D. Rogan.

***Bloom, Cecil,** Inter.B.Sc. (Manc.). British. 56, Wellington Street West, High Broughton, Salford, 7. Student at Manchester University (Honours Chemistry, 2nd year). *Signed by :* A. E. Gillam, F. Fairbrother, Colin Campbell.

Bowman, Ralph Edward, B.Sc. (Lond.), A.R.I.C. British. 20, Meadow Way, Upminster. Research Chemist, A. Boake, Roberts & Co., Ltd., Stratford, E. *Signed by :* F. Barrow, Wm. Wardlaw, D. J. G. Ives.

Brooks, Joseph Henry, A.R.I.C., A.M.I.I.A. British. Kenmar, 15, Barnsdale Road, Allerton Bywater. Technical Chemist, Wood Preservation Division, Hickson & Welch, Ltd., Ings Lane, Castleford. *Signed by :* R. J. Benzie, D. S. M. Davis, T. Harrington.

Cameron, Hamish Brisbane, B.Sc. (Glas.). British. c/o Howley, 1, Rutland Road, Hayes, Middlesex. Laboratory Assistant, Plastics Development Laboratory, Fairey Aviation Co., Ltd., Hayes, Middlesex. *Signed by :* C. Buchanan, T. S. Stevens, S. Horwood Tucker.

Chancellor, Stanley Frederick, A.R.I.C. British. 90, Castle Lane, Olton, Birmingham, 27. Analytical and Research Chemist. *Signed by :* T. T. Jones, A. A. K. Whitehouse, W. F. A. Thorpe.

***Charlton, John Cecil,** B.Sc.Hons. (Wales). British. Department of Chemistry, University College of North Wales, Bangor. Research Student at University College of North Wales. *Signed by :* I. Dostrovsky, E. D. Hughes, W. Rogie Angus.

***Charlwood, Peter Albert,** B.A. (Cantab.), B.Sc. (Lond.). British. 89, Pinnacle Hill (N.), Bexleyheath. Research Chemist at Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent. *Signed by :* C. G. Anderson, A. J. Woiwod, S. Wilkinson.

Colman, Colin Robert, Dip.Ing.Chem. (Zurich), A.R.I.C. British. 3, Mosley Avenue, Bury. Chief Chemist, the Holden Vale Manufacturing Co., Haslingden, Lancs. *Signed by :* J. C. Withers, P. Ofner, G. C. Gibbons.

***Corbett, William Michael.** British. Berville, Mountford Lane, Bilston. 2nd Year Honours Chemistry Student, Birmingham University. *Signed by :* F. W. Pinkard, Paul Arnall, S. R. Carter, C. S. Kipping.

Cunliffe, Percy Walmsley, B.Sc. and Ph.D. (Lond.), F.R.I.C. British. 48, Rectory Lane, Prestwich, Manchester. Head of Research Department of The British Cotton and Wool Dyers' Association, Ltd. *Signed by :* G. G. Bradshaw, A. S. Fern, J. C. Withers.

***Derbyshire, Deryck Harry.** British. 61, Church Street, Fenton, Stoke-on-Trent. Student, Durham University. *Signed by :* C. W. Gibby, G. H. Christie, F. A. Paneth.

Dore, William Paterson, A.R.I.C. British. 73, Wiltshire Road, Derby. Analytical and Research Chemist. *Signed by :* S. A. Miller, W. Hunter, P. F. C. Sowter.

Drysdale, Angus, A.R.I.C. British. 66a, Stewart Avenue, Bo'ness, West Lothian. Works Chemist. *Signed by :* Thomas A. Wilson, James R. Ferguson, J. Armour.

***Eaborn, Colin,** B.Sc.Hons. (Wales). British. Department of Chemistry, University College of North Wales, Bangor. Research Student. *Signed by :* I. Dostrovsky, E. D. Hughes, W. Rogie Angus.

Elston, Cyril Harry Richard, M.Sc. (Leeds), A.R.I.C., Diploma in Dyeing. British. 55, Station Road, Hounslow. Research Chemist. *Signed by :* F. Thomas, D. Leighton, Arthur E. James.

***Fleming, Margaret Kerr,** B.Sc. (Glas.) and A.R.T.C. (Glas.), A.R.I.C. British. 22, Waldemar Avenue, S.W. 6. Chemist, J. Lyons & Co., Ltd. *Signed by :* Nathan Goldenberg, H. S. Rooke, G. H. Green.

Ford-Moore, Arthur Henry, B.A.Hons. (Cantab.). British. St. Johns Isle, St. Nicholas Road, Salisbury. Senior Scientific Officer, Chemical Defence Experimental Station, Porton. *Signed by :* Hamilton McCombie, B. C. Saunders, H. Raymond Ing.

Francis, John Leslie, A.R.I.C. British. 52, St. John's Road, Whalley Range, Manchester, 16. Chief Chemist and Manager of a Cellulose Lacquer and Spirit Varnish Works. *Signed by :* W. Esmond Wornum, E. J. Amies, E. J. Bond.

Friend, David, B.Sc. (Lond.), A.R.I.C. British. 8, Wentworth Park, Finchley, N. 3. Chief Chemist, John L. Rogers & Staff, Food Consultants. *Signed by :* F. B. Jones, B. P. Baker, K. J. Verrill.

Gaunt, Jack, B.Sc.Hons. (Leeds), A.R.I.C. British. Sherburn, Church Lane, Adel, Leeds, 6. Research Student at Leeds University. *Signed by :* F. R. Goss, W. Wild, F. Challenger.

Gellay, Victor Peter, B.Sc.Hons. (Lond.), A.Inst.P. British. 7, Rookfield Close, Muswell Hill, N. 10. Works Chemist, Harris Lebus, Finsbury Works, Tottenham, N. 17. *Signed by :* S. H. Bell, Gerald Druce, Royston Barry Drew.

Gray, George Alexander. National Certificate in Chemistry, 1940. British. 14, Vicarage Road, Southville, Bristol, 3. Analyst, University of Bristol, Agricultural Advisory Office. *Signed by :* T. Malkin, Arthur Marsden, Ian G. Holden.

Greig, Edwin Ian, M.P.S., Ph.C., A.R.I.C. British. 5, Doune Quadrant, Glasgow, N.W. Analytical Chemist. *Signed by :* I. Vance Hopper, M. M. J. Sutherland, Henry G. A. Anderson.

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Hooper, Olive Mary, B.Sc. (Lond.), A.R.I.C. British. Standfast, Roydon, Ware. Industrial Research Chemist. *Signed by :* H. M. Perry, F. B. Jones, H. J. Strausz.

Hubbard, Donald Arthur, M.P.S. British. 123, Gilbert Road, Cambridge. Manager, Synthetic Resin Department, Aero Research, Ltd., Duxford, Cambridge. *Signed by :* John Rogers, C. P. Percy, A. W. Middleton.

Hutcheson, William Bell, F.R.I.C. British. 25, Beech Avenue, Burnbrae, Bearsden. Chief Chemist, Messrs. R. & J. Garroway, Ltd., Chemical Manufacturers, Glasgow. *Signed by :* A. B. Crawford, M. M. J. Sutherland, I. Vance Hopper.

Irwin, Michael, B.Sc. (Lond.). British. Aero-Engine Research Laboratory, Post Office, Box No. 1, Chester. Research Chemist. *Signed by :* J. C. Street, T. P. Hughes, D. S. Penny.

Jamieson, Archibald Robert, B.Sc. (Glas.), F.R.I.C. British. City Analyst's Department, 20, Trongate, Glasgow, C. 1. Public Analyst and Corporation Chemist for City of Glasgow. *Signed by :* F. Rumford, John R. Campbell, W. J. Skilling.

Jarvis, Oscar Watson, M.P.S. British. 14, Lindore Road, Clapham Common, S.W. 11. Chemist controlling processes for the refining of Essential Oils. *Signed by :* K. J. Verrill, H. R. Sapiro, J. A. R. MacLean.

***Johnson, George,** National Certificate in Chemistry. British. 89, Wellbrow Road, Walton, Liverpool, 4. Laboratory Assistant, City Laboratories, Liverpool. *Signed by :* A. E. Findlay, R. R. Butler, C. F. Turner.

Kelly, Albert Joseph, M.P.S. British. 25, Alexandra Road, Hornsey, N. 8. Technical Assistant, Directorate of Medical Supplies, Ministry of Supply, Portland House, Tothill Street, S.W. 1. *Signed by :* A. E. Corker, S. K. Tweedy, W. H. Bennett.

***Kenny, Alexander Donovan,** B.Sc. (Lond.), A.R.C.S. British. 1, Cranmore Avenue, Isleworth. Research Chemist. *Signed by :* Hubert H. Chambers, R. Sufrin, N. R. Jones.

Khorana, Har Gobind, M.Sc.Hons. (Punjab). British. Department of Organic Chemistry, The University, Liverpool. Research for Ph.D. degree of the University of Liverpool. *Signed by :* R. J. S. Beer, N. J. Cartwright, W. B. Whalley.

***Kut, Siegmund,** Inter.B.Sc. (Lond.). Stateless (formerly Russian). 7, Sheila House, North Circular Road, N.W. 11. Assistant Analytical Chemist. *Signed by :* A. J. Amos, D. W. Kent-Jones, P. S. Elias.

Lahey, Francis Norman, D.Sc. (Queensland). British. Chemistry Department, University of Melbourne, Victoria. Senior Lecturer in Organic Chemistry. *Signed by :* E. Heymann, J. S. Anderson, E. J. Hartung.

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Lloyd, Douglas Mathon Gent, B.Sc.Hons. (Bristol), A.R.I.C. English. 59, North Street, Bristol, 3. Research Student at Bristol University. *Signed by :* Brynmor Jones, E. L. Hirst, W. Baker.

***Massie, William Henry Simpson,** B.Sc. (Glas.). British. 4, Firpark Terrace, Dennistoun, Glasgow, E. 1. Assistant Chemist. *Signed by :* W. J. Skilling, S. Horwood Tucker, J. W. Cook.

Maurer, Edward Stewart. Dipl. Teknik. Kemist (Stockholm). British. 54, Shanklin Road, Southampton. Chemist and Technical Manager, Eucryl, Limited, Manufacturing Chemists; Luce's Eau-de-Cologne Co., Ltd. *Signed by :* Harry Barron, S. H. Harper, N. K. Adam.

***Musgrave, Oliver Charles,** B.Sc. (Lond.). British. The Platanes, Champion Hill, S.E. 5. Ph.D. research course at King's College, University of London. *Signed by :* D. H. Hey, P. C. Crofts, V. Gold.

***Norcross, Geoffrey,** B.Sc.Hons. (Manc.). British. 6, Garthwaite Avenue, Oldham. Research Student of University of Manchester. *Signed by :* A. E. Gillam, H. T. Openshaw, F. S. Spring.

*Nyburg, **Stanley Cecil,** B.Sc. (Lond.). British. 128, Long Drive, East Acton, W. 3. X-Ray Crystallographer, The British Rubber Producers' Research Association. *Signed by :* M. G. Evans, E. G. Cox, G. A. Jeffrey.

*Pam, **Gerald Maurice,** Inter.B.Sc. British. 3, Albany Road, Leyton, E. 10. B.Sc.Hons. Chemistry Student at Queen Mary College, University of London. *Signed by :* D. C. Jones, J. R. Partington, A. D. Littlewood.

*Pauson, **Peter Ludwig,** B.Sc.Hons. (Glas.). German. Hillcrest, 29, Eastwood Avenue, Giffnock. Student. *Signed by :* S. Horwood Tucker, J. W. Cook, T. S. Stevens.

Perryman, Victor Neil. British. 105, Lamorna Avenue, Gravesend. Assistant Chief Chemist with John Dickinson & Co., Ltd., Watford. *Signed by :* T. P. Dee, C. B. Bolland, Norman B. Biggs.

Price, Stanley Carter. British. Woodside, 275, Wigan Lane, Wigan. Assistant Analyst in Mines Laboratory. *Signed by :* E. Foley, A. Cooksey, Malcolm Crawford.

Richards, Raymond Bliss, B.A. (Oxon.). British. Winnington Hall Club, Northwich. Research Chemist, Imperial Chemical Industries, Ltd., Alkali Division. *Signed by :* James R. Myles, G. D. Buckley, L. M. Clark.

Richardson, Thomas Norman, B.A. and M.Sc. (Dublin), F.R.I.C. British. c/o Johnson Bros., 390, Clonaed Road, Kimmage, Dublin. Industrial Chemist. *Signed by :* T. S. Wheeler, J. W. Parkes, K. C. Bailey.

Ridge, Dudley, M.Sc. and Ph.D. (Lond.), A.R.I.C. British. Department of Chemistry and Biology, The Polytechnic, Regent Street, W. 1. Lecturer in Chemistry. *Signed by :* H. G. Emblem, Denis E. B. Greensmith, H. Lambourne.

Roberts, Douglas Keir, A.R.I.C. British. 11, Highbury Avenue, Flixton, Manchester. Works Chemist. *Signed by :* A. B. Owles, F. Holme, C. Kennedy.

Roberts, Frank Wilson, F.R.I.C. British. Sewage Purification Works, East Hyde, Luton. Chemist. *Signed by :* C. H. Price, C. W. Drane, H. J. T. Ellingham.

*Robson, **John Norman,** A.R.I.C. British. 6, Callard Avenue, Palmers Green, N. 13. *Signed by :* D. H. Richardson, W. Gerrard, E. G. Cowley.

*Sales, **Rose Mary,** B.Sc.Hons. (Lond.), examination passed. British. 52, Mahon Avenue, Rawmarsh, Yorks. Student at Bedford College for Women. *Signed by :* E. E. Turner, Mary S. Lesslie, Margaret M. Jamieson.

Sharp, Louis Kenneth, B.Sc.Hons. (Lond.), A.R.I.C., Ph.C. British. 440, Upper Elmers End Road, Beckenham. Assistant Lecturer in Pharmaceutical Chemistry, College of the Pharmaceutical Society, 17, Bloomsbury Square, W.C. 1. *Signed by :* W. J. Arrol, Wilfred H. Linnell, T. E. Wallis.

*Shaw, **George Wenham.** British. 14, Thingwall Drive, Barnston, Wirral. Assistant Process Chemist, Tate & Lyle, Ltd., Liverpool. *Signed by :* A. J. Seavell, D. B. Taylor, H. M. Thompson.

*Shelton, **James Harry.** British. 111, Garner Road, Walthamstow, E. 17. Public Analyst's Assistant. *Signed by :* H. Holness, C. G. Hawkins, R. W. Jukes.

*Shoop, **Stanley,** Inter.B.Sc. (Lond.). British. 92, Newark Street, E. 1. Student at the Woolwich Polytechnic. *Signed by :* G. H. Jeffery, Arthur I. Vogel, F. Holmes.

*Silk, **Terence Anthony George,** B.A. (Cantab.). British. 26, Chipstead Street, Fulham, S.W. 6. Analytical Chemist for Shell Refining and Marketing Co., Ltd., Central Laboratories, Fulham, S.W. 6. *Signed by :* W. Pohl, W. David, W. Hocknell.

*Small, **Frederick Ivan Gordon,** B.Sc.Hons. (Bristol). British. 3, Pembroke Mansions, Oakfield Road, Clifton, Bristol, 8. Post graduate research for Ph.D. degree. *Signed by :* C. E. H. Bawn, W. Baker, T. Malkin.

*Smith, **John Frederick.** British. 244, Malden Road, New Malden. Reading for Honours in Chemistry at University College of North Wales, Bangor. *Signed by :* I. Dostrovsky, E. D. Hughes, W. Rogie Angus.

Southgate, Bernard Alfred, B.A. and Dip. Agric. (Cantab.), Ph.D. and D.Sc. (Aberd.), F.R.I.C. British. Water Pollution Research Laboratory, Langley Road, Watford. Director, Water Pollution Research, D.S.I.R. *Signed by :* W. H. J. Vernon, F. Wormwell, E. A. Coulson.

*Stott, **Geoffrey,** B.Sc. (Wales). British. The Glebe, Roumania Drive, Llandudno. Research Student. *Signed by :* I. Dostrovsky, E. D. Hughes, W. Rogie Angus.

Thomas, Frederick William, B.Sc.Hons. (Lond.), A.R.I.C. British. 36, West Park Road, Bramhall. Research Chemist, British Cotton Industry Research Association, Shirley Institute, Didsbury, Manchester. *Signed by :* Douglas W. Hill, R. G. Fargher, J. C. Withers.

*Todd, **Margaret,** B.Sc. (Lond.), A.R.I.C. British. 9, Uphill Road, Mill Hill, N.W. 7. Research Chemist. *Signed by :* H. G. Emblem, Denis E. B. Greensmith, H. Lambourne.

*Turner, **David Warren.** British. 35, Leigh Gardens, Leigh-on-Sea. Reading for B.Sc. degree in Chemistry at University College of South-West England, Exeter. *Signed by :* S. J. Gregg, H. T. S. Britton, K. Schofield.

Twyman, Frank, F.Inst.P., F.R.S. British. 98, St. Pancras Way, N.W. 1. Managing Director, Adam Hilger, Ltd. *Signed by :* A. R. Powell, S. Judd Lewis, I. M. Heilbron, E. R. H. Jones.

Uvarov, Eugene Boris, B.Sc. (Lond.), A.R.C.S., D.I.C. British. 184, Daventry Road, Coventry. Chemist. *Signed by :* H. Paul, F. Stanley Brown, R. L. Wormell.

Walker, Frank Arthur, A.R.I.C. British. 25, Sundial Road, Offerton, Stockport. Chief Chemist. Cornbrook Chemical Co., Ltd., Colour and Chemical Manufacturers, Stockport. *Signed by :* Roy B. Waters, E. B. Robinson, E. Isaacs.

Warson, Henry, B.Sc.Hons. (Lond.), A.R.I.C. British. 32, Gunton Road, Upper Clapton, E. 5. Research Chemist, Vinyl Products, Ltd., Butter Hill, Carshalton. *Signed by :* Thomas McLachlan, J. Stewart Cook, J. E. O. Mayne.

Waye, Basil Edmund, M.Sc. (Lond.), F.R.I.C., A.R.C.S. British. Larch Gates, Altwood Bailey, Maidenhead. Physicist and Director of Research, British Filters, Ltd., Maidenhead. *Signed by :* F. B. Marmoy, J. G. A. Griffiths, G. L. Riddell.

Wicker, Ronald James, B.Sc.Hons. (Lond.), A.R.I.C. British. 644b, London Road, Westcliff-on-Sea, Southend. Chemist in the Research and Analytical Laboratory, London Co-operative Society, Stratford, E. 15. *Signed by :* R. P. Wood, Albert E. Parkes, Laurence S. Bull.

Wilkinson, John Bertrand, B.Sc. and Diploma in Dyeing (Leeds), A.R.I.C. British. 59, Beech Way, Twickenham. Chemist, Williams (Hounslow), Ltd., Hounslow. *Signed by :* William Bennett, F. Thomas, Arthur E. James.

*Wilkinson, **William James Talbot.** Natural Sciences Tripos, Part I, 1945, Cambridge. British. 17, Sollershott East, Letchworth. Research Chemist, Royal Aircraft Establishment, Farnborough. *Signed by :* R. J. W. Le Fèvre, John D. Coates, Gilbert Palmer.

*Williams, **Elin Mair Llywelyn,** B.Sc. (Manc.). British. Ashburne Hall, Fallowfield, Manchester, 14. Research Student at Manchester University. *Signed by :* A. E. Gillam, J. K. N. Jones, Colin Campbell.

Wilson, Alan Herries, M.A. (Cantab.), F.R.S. British. 15, Barrow Road, Cambridge. Company Director. Director of Research and Development, Courtaulds, Ltd. *Signed by :* C. H. Bamford, F. Stanley Brown, H. J. Hegan.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Dutta, Narendera Nath, M.B. (Calcutta). Indian. 153, Dharamtalla Street, Calcutta. Managing Director, Bengal Immunity Co., Ltd., a biological and pharmaceutical manufacturing concern. *Signed by :* B. B. Dey.

Fragner, George, Dr.Ing. Czechoslovak. 23, Slovenska Str., Prague XII. Leading Director of Pharmaceutical Works, B. Fragner, Prague. *Signed by :* George Lewi, Jacob Pomeraniec.

Marcha, Jaro, Dr. (Masaryk University). Czechoslovak. 2n, Dürichovo nam. Prague XIX. Managing Director of Distillers, Ltd., Prague. *Signed by :* George Lewi.

Mitchell, William Vernon, A.R.I.C. British. c/o West African Soap Co., Ltd., Apapa, Nigeria. Soapmaking Chemist employed by Lever Brothers, Port Sunlight, Ltd. *Signed by :* A. E. Findlay, R. R. Butler.

Prasad, Sheonath, M.Sc. (Benares), B.L. (Patna), A.R.I.C. Indian. P.O. Pusa Dist., Darbhanga, Bihar. Soil Biochemist, Central Sugarcane Research Station, P.O. Pusa, Darbhanga. *Signed by :* M. Q. Doja.

* Reduced annual subscription.

PAPERS RECEIVED.

List of papers received between February 7th and March 6th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal.*)

" The reduction of *p*-nitrobenzoic acid to hydrazo- and azobenzene-4 : 4′-dicarboxylic acids by means of glucose." By Miss M. L. Tomlinson.

" The dependence of the viscosities of liquids on reduced temperature and a relation between viscosity, density, and chemical constitution." By L. H. Thomas.

" The preparation of simple organic orthoborates." By L. H. Thomas.

" The preparation of mixed organic orthoborates." By L. H. Thomas.

" Cinnolines. Part VII. Further observations on the Widman–Stoermer reaction." By J. C. E. Simpson.

" Enolic derivatives of 3 : 6-diketo-Δ^4-cholestene." By W. C. J. Ross.

" A study of the reaction of some nitrosamines with α-naphthylamine hydrochloride." By C. A. Parker.

" Chromatographic spot tests." By P. P. Hopf.

" Schmidt's so-called ' 1 : 4-dihydrocarbazole '." By Miss B. M. Barclay, N. Campbell, and R. S. Gow.

" The kinetics of absorption of gases from an air stream by granular reagents." By C. J. Danby, J. G. Davoud, D. H. Everett, C. N. Hinshelwood, and R. M. Lodge.

" A method for the synthesis of tertiary aromatic arsines." By W. E. Hanby and W. A. Waters.

" Syntheses of some β-chlorinated amines." By A. H. Ford-Moore, A. G. Lidstone, and W. A. Waters.

" The chlorination of methyl-di(β-chloroethyl)-amine and related compounds." By C. W. Crane, J. Forrest, O. Stephenson, and W. A. Waters.

" A note on amides derived from ω-chloroacetophenone." By W. A. Waters.

" Some new glycol mono ethers." By W. J. Dunstan.

" The dipole moments of two dichloro-diphenyl-diacetylenes." By G. E. Coates.

" Synthetic antimalarials. Part IX. 4-Arylamino-2-basicalkylamino-6-methylpyrimidines. Further variations." By F. H. S. Curd, Miss M. I. Davis, E. C. Owen, F. L. Rose, and G. A. P. Tuey.

" Synthetic antimalarials. Part X. Some arylbiguanide derivatives." By F. H. S. Curd and F. L. Rose.

" The kinetics of some benzidine rearrangements, and a note on the mechanism of aromatic substitution." By M. J. S. Dewar.

" Amidines. Part II. Preparation of cyanides, amides, and amidines from carboxylic acids." By P. Oxley, M. W. Partridge, T. D. Robson, and W. F. Short.

" Some *p*-alkoxybenzene-sulphonamides and their *N*-chloro-derivatives." By W. E. Hanby and H. N. Rydon.

" The ethylmercuri phosphates." By A. D. Ainley, L. A. Elson, and W. A. Sexton.

" The estimation of sulphur trioxide in sulphur dioxide/sulphur trioxide mixtures by the method of amperometric titration." By D. W. E. Axford and T. M. Sugden.

" Experiments on the synthesis of the pyrethrins. Part II. The structure of cinerone." By S. H. Harper.

"Experiments on the interaction of hydroxy-compounds and phosphorus and thionyl halides in the absence and in the presence of tertiary bases. Part V." By W. GERRARD.

"Errors in viscosity due to surface tension." By G. BARR.

"Interpretation of the Sandmeyer reaction. Part VIII. The decomposition of diazonium salts by cupric chloride in neutral and acid solution." By H. H. HODGSON.

"Fluorescence spectrography as an aid in the identification of compounds." By I. BERENBLUM and MISS R. SCHOENTAL.

"Ethyl keto-glutaconate." By J. W. CORNFORTH and MRS. R. H. CORNFORTH.

"Experiments on the synthesis of substances related to the sterols. Part XLIV. By J. W. CORNFORTH and SIR ROBERT ROBINSON.

"Strychnine and brucine. Part XLII. Constitution of the *neo*-series of bases and their oxidation products." By L. H. BRIGGS, H. T. OPENSHAW, and SIR ROBERT ROBINSON.

"The action of hydrogen chloride on isoprene." By W. J. JONES and H. W. T. CHORLEY.

"Preparation and properties of β-chloroalkyl esters of boric, silicic, and phosphoric acids." By W. J. JONES, L. H. THOMAS, E. H. PRITCHARD, and S. T. BOWDEN.

"The difluorarsines." By L. H. LONG, H. J. EMELÉUS, and H. V. A. BRISCOE.

"Experiments on the synthesis of purine nucleosides. Part XII. The configuration at the glycosidic centre in natural and synthetic pyrimidine and purine nucleosides." By J. DAVOLL, B. LYTHGOE, and A. R. TODD.

"Experiments on the synthesis of purine nucleosides. Part XIII. An improved method for the cyclisation of 4-glycosidamino-5-thioformamido-pyrimidines." By G. W. KENNER and A. R. TODD.

"Experiments on the synthesis of purine nucleosides. Part XIV. An interpretation of some interconversion reactions of *N*-glycosides." By G. A. HOWARD, G. W. KENNER, B. LYTHGOE, and A. R. TODD.

"Experiments on the synthesis of purine nucleosides. Part XV. The configuration of some synthetic purine and pyrimidine glucosides." By G. A. HOWARD, G. W. KENNER, B. LYTHGOE, and A. R. TODD.

"Alkyl-oxygen fission in carboxylic esters. Part III. By M. P. BALFE, E. A. W. DOWNER, A. A. EVANS, J. KENYON, R. POPLETT, C. E. SEARLE, and A. L. TÁRNOKY.

"Alkyl-oxygen fission in carboxylic esters. Part IV." By M. P. BALFE, A. EVANS, J. KENYON, and K. N. NANDI.

"Alkyl-oxygen fission in carboxylic esters. Part V." By M. P. BALFE, J. KENYON, and R. WICKS.

"The light absorption and resonance energies of some heterocyclic molecules." By A. MACCOLL.

"A convenient method of preparation of certain primary amines." By R. BROWN and W. E. JONES.

"Action of diazomethane on hydroxy compounds and of diazomethane derivatives on phenanthraquinone." By A. SCHÖNBERG and A. MUSTAFA.

LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

Aberdeen.	T. Harold Reade, M.A., M.Sc., Chemistry Department, Marischal College, The University, Aberdeen.
Australia.	T. Iredale, D.Sc., F.R.I.C., The University, Sydney, Australia.
Birmingham.	L. L. Bircumshaw, M.A., D.Sc., Department of Chemistry, The University, Edgbaston, Birmingham, 15.
Bristol.	C. E. H. Bawn, Ph.D., Chemistry Department, The University, Woodland Road, Bristol.
Cambridge.	F. S. Dainton, Ph.D., B.A., Sidney Sussex College, Cambridge.
Canada.	Professor W. D. McFarlane, M.A., Ph.D., Macdonald College, St. Anne de Bellevue, Quebec, Canada.
Edinburgh.	E. G. V. Percival, D.Sc., Ph.D., F.R.I.C., Chemistry Department, King's Buildings, West Mains Road, Edinburgh.
Eire.	Professor T. S. Wheeler, D.Sc., Ph.D., F.R.I.C., Chemical Department, University College, Upper Merrion Street, Dublin.
Exeter.	S. J. Gregg, Ph.D., A.R.C.S., A.R.I.C., Department of Chemistry, Washington Singer Laboratories, Prince of Wales' Road, Exeter.
Glasgow.	James Bell, D.Sc., Ph.D., F.R.I.C., Chemistry Department, The University, Glasgow, W. 2.
India.	Sir Shanti S. Bhatnagar, O.B.E., D.Sc., F.R.S., The University, Lahore, Punjab, India.
Leeds.	F. R. Goss, D.Sc., Ph.D., F.R.I.C., The University, Leeds, 2.
Liverpool.	A. McGookin, D.Sc., Ph.D., A.R.I.C., Organic Chemistry Department, The University, Liverpool.
Manchester.	A. E. Gillam, D.Sc., F.R.I.C., Chemistry Department, The University, Manchester.
,,	J. C. Withers, Ph.D., A.R.I.C., Shirley Institute, Didsbury, Manchester.
Newcastle and Durham.	G. H. Christie, Ph.D., M.Sc., Department of Science, The University, South Road, Durham.
New Zealand.	Professor F. G. Soper, D.Sc., Ph.D., F.R.I.C., University of Otago, Dunedin, New Zealand.
Northern Ireland.	H. Graham, D.Sc., A.R.I.C., 26, Malone Hill Park, Belfast.
North Wales.	W. Rogie Angus, M.A., D.Sc., Ph.D., F.R.I.C., Department of Chemistry, University College of North Wales, Bangor.
Nottingham.	D. O. Jordan, Ph.D., M.Sc., A.R.I.C., University College, University Park, Nottingham.
Oxford.	R. P. Bell, M.A., B.Sc., F.R.S., Balliol College, Oxford.
St. Andrews and Dundee.	J. D. M. Ross, M.B.E., M.A., D.Sc., Chemistry Department, University College, Dundee.
Sheffield.	Brynmor Jones, B.Sc., Ph.D., Chemistry Department, The University, Sheffield, 10.
Southampton.	S. H. Harper, B.Sc., D.Sc., Ph.D., A.R.C.S., D.I.C., University College, Southampton.
South Africa.	Professor W. Pugh, Ph.D., B.Sc., F.R.I.C., Chemistry Department, University of Cape Town, Rondebosch, S. Africa.
South Wales.	Professor J. E. Coates, O.B.E., D.Sc., F.R.I.C., University College, Singleton Park, Swansea.

THE CHEMICAL SOCIETY

NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (Burlington House).

Thursday, May 16th, 1946, at 5 p.m.

Meeting for the reading of the following papers:

"Strychnine and brucine. Part XLII. Constitution of the *neo*-series of bases and their oxidation products." By L. H. Briggs, H. T. Openshaw, and R. Robinson.

"The reconversion of *D*-homoandrostane compounds to derivatives of androstane." By D. A. Prins and C. W. Shoppee.

OXFORD.

Thursday, June 6th, at 2 p.m.

Official meeting jointly with the Oxford University Alembic Club.

Discussion, **The Chemistry of Antibacterial Substances,** at the Physical Chemical Laboratory, South Parks Road, Oxford.

Contributions will include the following papers:

"Structural Problems in the Chemistry of Antibacterial Substances," by Sir Robert Robinson, D.Sc., P.R.S.

"Some Physico-chemical aspects of Antibacterial action," by J. M. G. Pryce, B.A., and Professor C. N. Hinshelwood, Sc.D., F.R.S.

"Antibacterial agents in relation to bacterial metabolism," by D. D. Woods, M.A., Ph.D., and a fourth contribution by Dr. E. B. Chain, the subject to be announced later.

Arrangements are being made to provide Luncheon (price 7*s.* 6*d.*, including gratuity) at the Randolph Hotel, Oxford, at 12.30 p.m. Fellows who wish to attend should communicate as soon as possible, and not later than May 27th, 1946, with F. M. Brewer, Esq., Inorganic Chemical Laboratory, South Parks Road, Oxford.

There will be an interval for tea, after which the discussion will be continued. It is anticipated that the meeting will terminate about 5.45 p.m.

SOUTHAMPTON.

Friday, May 17th, 1946, at 5 p.m.

Lecture, **Nucleoproteins,** by Professor J. M. Gulland, D.Sc., F.R.S.

Friday, May 24th, 1946, at 5 p.m.

Lecture, **Structural Inorganic Chemistry,** by Professor W. Wardlaw, D.Sc., F.R.I.C.

Joint meetings with the University College Chemical Society to be held in the Physics Lecture Theatre of University College.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held in the Lecture Hall of the Institution of Mechanical Engineers, Storey's Gate, Westminster, London, S.W. 1, on Thursday, April 4th, 1946, at 2.30 p.m.

The President, PROFESSOR W. N. HAWORTH, D.Sc., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on March 7th, 1946, were taken as read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: A. A. K. Whitehouse, J. Shorter, K. J. Ivin, R. E. Richards, D. M. Duckworth, D. W. Humphries, R. M. Lodge, D. H. Everett, J. R. Blanco, A. P. Rice, R. G. Bowler, A. A. Henley, C. F. Williams, B. R. J. Thomas, J. C. Tatlow, E. J. Bourne, K. I. Speed, R. M. Black.

DISCUSSION.

The President called on Professor H. W. Melville to open the Discussion on "Some Aspects of the Chemistry of Macromolecules." After brief opening remarks by Professor Melville, the following contributions were made:

Part I.

1. "Low-temperature polymerisation processes," by Professor M. Polanyi, Ph.D., M.D., F.R.S.
2. "Kinetics of aqueous phase polymerisation of vinyl compounds," by Professor M. G. Evans, D.Sc.
3. "Polymerisation of vinyl compounds in the gas and liquid phases," by Professor H. W. Melville, Ph.D., D.Sc., F.R.S.

Professor Melville took the Chair in place of the President after the first contribution.

Tea was taken at 4.30 p.m. and the Discussion was continued with the following contributions:

Part II.

4. "Equilibrium properties of high polymer solutions and gels," by Dr. Geoffrey Gee, M.Sc., Ph.D., A.R.I.C.
5. "The study of macromolecules by infra-red spectroscopy," by Dr. H. W. Thompson, M.A., B.Sc., D.Phil., F.R.S.
6. "Study of high polymer structure by X-ray diffraction methods," by C. W. Bunn, Esq., M.A., B.Sc.

Following a general discussion by members of the audience, the Chairman called on the Treasurer, Mr. F. P. Dunn, to propose the vote of thanks. Mr. Dunn stated that it was intended to publish a full account of the meeting and expressed the thanks of the Society to Professor Melville for arranging the Discussion, to the contributors, and to the Institution of Mechanical Engineers for permitting the use of their rooms. The vote was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

(a) *Honorary Fellows.*

	Elected.	Died.
Auguste Béhal	1933	Feb. 2nd, 1941.
Ernst Julius Cohen	1923	Presumed killed Feb. 1944.
Gilbert Newton Lewis	1923	March 26th, 1946.
Frans Antoon Hubert Schreinemakers	1933	Feb. 1941.

and at the Council Meeting on April 4th, the following resolution was passed:

"The President, Officers and Council have learned with profound regret of the deaths of these Honorary Fellows of the Society. They record their high appreciation of the services they have rendered to the science of chemistry and mourn the loss of these distinguished colleagues."

(b) *Fellows.*

	Elected.	Died.
Frank Browne	1893	March 26th, 1946.
Reginald Graham Durrant	1883	Oct. 4th, 1945.
William James Coltart Orr	1941	March 13th, 1946.
Richard Cayley Giffard Moggridge	1942	March 26th, 1946.

CONGRATULATIONS.

The congratulations of the Council have been conveyed by the President to the following Fellows who were elected Fellows of the Royal Society on March 21st, 1946:

Wilson Baker.
Frank Dickens.
Harry Julius Emeléus.
Harold Warris Thompson.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. J. R. Heather, Mr. A. Lowe, Miss M. Le Pla, Mr. G. Pleasants, and Dr. F. L. Sos for gifts of publications of the Society.

RESEARCH FUND.

A meeting of the Research Fund Committee will be held in June next.

Applications for Grants, to be made on forms obtainable from the General Secretary, must be received on or before June 1st, 1946. Applications from Fellows will receive prior consideration.

Attention is drawn to the fact that the income arising from the Donation of the Worshipful Company of Goldsmiths is principally devoted to the encouragement of research in Inorganic and Metallurgical Chemistry and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and Allied Industries.

LOCAL REPRESENTATIVES.

(a) *Aberdeen.*

Dr. J. M. C. Thompson has been appointed to succeed Mr. T. Harold Reade, who has resigned, as Local Representative for Aberdeen.

(b) *Glasgow.*

Dr. J. D. Loudon has been appointed to succeed Dr. James Bell, who has resigned, as Local Representative for Glasgow.

The thanks of the Council have been conveyed to the retiring Local Representatives for their valuable services to the Society.

LIST OF FELLOWS 1946.

The co-operation of Fellows is earnestly requested in the preparation of a new List of Fellows. It is proposed to issue to each Fellow a card inviting up to date details of his degrees, etc., and the preparation of the list will be greatly facilitated if Fellows will return this card in the envelope to be provided as soon as possible after it is received by them.

APPEAL FOR COPIES OF THE SOCIETY'S PUBLICATIONS FOR LIBERATED EUROPEAN COUNTRIES.

The Society has been invited to make sets of its publications available for free distribution to important centres in allied countries. Owing to wartime restrictions, the Society is unable to provide sufficient copies of its publications issued during the war years, 1940—1945. The Council has, therefore, decided to appeal to Fellows for further copies of the *Journal*, *Annual Reports*, and *Abstracts* for those years. Any Fellow who is willing to provide such publications for this purpose is invited to notify the General Secretary as soon as possible. No publications should be sent at this stage.

ELECTION OF NEW FELLOWS.

The following 73 candidates were elected Fellows of The Chemical Society on April 4th, 1946:

Henry George Walter Abraham.
David Hemsley Adams.
Russell James Laurence Allen.
Peter Bailes.
Thomas William Terence Baillie.
Alan Hugh Boud.
Jean-Pierre Bourquin.
Eric Andrew Bradford.
Dora Mary Brasher.
Stanley Thomas Patrick Brightwell.
Arthur William Brown.
Arthur William Bull.
James Cathro.
John Ritchie Chalmers.
Cyril Norman Chapman.
George Alexander Sutton Clark.
Norman Owen Clark.
William Thomas Collins.
Albert Charles Cooper.
Peter Bedford Courtney.
James Joseph Cowperthwaite.
Clement John Danby.
John Davoll.
Harry Kenneth Dean.
Robert Edwin Eckton.
Rosa Anna Fhan-Bader.
Philip James Gay.
Eric Douglas Gilbert.
John Kenneth Giles.
Eugene Gluckauf.
Frederick John Hall.
Heinrich Hauptmann.
John Nigel Hawthorne.
Herbert Eric Hill.
Hubert Brian Hopkins.
John Cristiaan George Mervyn Holman.
Alexander Cantlay Hutchison.
Ronald Alfred Jamsett.
Bijan Bihari Lal.
Ewart Gordon Lewis.
Horace Ernest Johnson.
Sydney Walgate Johnson.
Barbara Jean Lovell.
Peter John Lynskey.
Kenneth MacDonald.
Keith Grahame McInnes.
Robert McIntyre.
Thomas Malcolm.
Ernest Max May.
Reginald Milton.
Patrick Thomas Moore.
Vincent Moss.
James Denis Mounfield.
Shyamapada Mukherjee.
William Kenneth Rodgerson Musgrave.
Norman John Powlesland.
William Ross Prentice.
Geoffrey Felix Rice.
Donald Vivian Richmond.
James Taylor.
Christopher Henry Thomas.
John Desmond Thornton.
Eric Frederick James Thorpe.
Reginald Harold Tomlinson.
Joseph Mary Veale.
Stanley Thomas Walter.
John Adam Cunningham Watson.
Margaret Whalley.
Douglas Robert Wallace Wilson.
William Ian Hay Winning.
Hans Georg Wollenberg.
Stanley Wright.
Charles Harcourt Wordsworth.

MEETINGS OUTSIDE LONDON.

EXETER.

"Colloids and Rheology—Introductory" on March 1st, and "The Stability of Colloidal Systems" on March 8th, by Dr. E. W. Mardles.

Each lecture was given in the Washington Singer Laboratories at 4.30 p.m. The lectures were remarkable in correlating an extremely wide range of phenomena and subjects, from the strength of materials to the taste of food.

The scope of rheology—the "science of the flow and deformation of matter"—was explained in a most interesting manner. Its relevance to the mesomorphic state to plasticity was pointed out, and recent work on muscle fibre touched on.

Greases, embrocations and lubricants were also dealt with and the importance of the "shape factor" of the particles on the viscosity of a colloidal system was stressed. The practical and industrial significance of the subjects was illustrated by reference to textiles, rubber, clay, blood, milk, etc.

The lectures were accompanied by a number of very effective diagrams on cards, which were much appreciated by the audience.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before May 31st, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Anderson, Alan Stuart, B.Sc.Hons. (Lond.). British. 34, Hollis Street, Alvaston. Research at University College, Nottingham. *Signed by:* G. R. Barker, D. O. Jordan, John C. Roberts, J. Masson Gulland.

***Archer, Bernard Lewis,** B.Sc. (Lond.). British. Chemistry Department, Imperial College, South Kensington, S.W. 7. Research Student. *Signed by:* H. V. A. Briscoe, J. A. Kitchener, A. A. Eldridge.

*Ashton, **Charles Thomas,** B.Sc. (Manc.). British. 230, Moseley Road, Fallowfield, Manchester 14. Research Chemist in the Pharmaceutical Laboratory of The Geigy Co., Ltd., Manchester. *Signed by :* Colin Campbell, I. E. Balaban, E. L. Hirst.

Bernstein, **Nandor,** Dipl.Eng. and Dr.Eng. (Technische Hochschule, Berlin). Hungarian. 10, Kenners Dene, Tynemouth. Managing Director, Tyne Chemical Co., Ltd., South Shields. *Signed by :* Richard Raper, G. R. Clemo, Wesley Cocker.

Bone, **John Speirs.** British. 44, Hillfoot Road, Hunts Cross, Liverpool. Works Chemist, Wilson Bros., Bobbin Co., Ltd., Garston, Liverpool. *Signed by :* James Smith, C. Durham Garbutt, W. Lloyd Willey.

Burfoot, **Eric Arthur,** B.Sc.Hons. (Lond.), M.P.S., Diploma in Biochemical Analysis. British. 28, Coventry Road, Beeston. Works Chemist, Chemical Department, Boots Pure Drug Co., Ltd., Island Street, Nottingham. *Signed by :* D. O. Jordan, John C. Roberts, G. R. Barker.

Burrows, **Norman,** National Certificate (General Chemical Technology). British. 45, Wrenbury Avenue, Withington, Manchester, 20. Assistant Chemist in charge of Plant Control. *Signed by :* H. Ainsworth Harrison, R. J. W. Reynolds, J. Logan.

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Tausigova, Hana, B.Sc.Hons. (L'pool). Czech. Vaclavska 18, Praha II, Czechoslovakia. Research Student. *Signed by :* Francis W. Kay, A. McGookin, George Glaser.

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UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

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Bradstreet, Raymond Bradford, M.S. (Brooklyn). American. 603, Westminster Avenue, Elizabeth, New Jersey. Analytical Research Chemist, Esso Laboratories (Research Division), Standard Oil Development Company, P.O. Box 243, Elizabeth B, N.J. *Signed by :* Per K. Frolich.

Jarrett, Wilfred Thomas, B.Sc. (Lond.), A.R.I.C. British. P.O. Box 83, Boksburg North, Transvaal. Refinery Manager, South African Torbunite Mining and Refining Co., Ltd. *Signed by :* S. L. Neppe.

Martin, Henry, Ph.D. (Basle). Swiss. c/o J. R. Geigy, S.A., 215, Schwarzwaldallee, Basle. Assistant Manager. *Signed by :* C. Gysin, P. Laeuger.

Nyrop, Johan Ernst, B.Sc. (Copenhagen). Danish. 43, Eggersvy, Hellerup, Copenhagen. Consulting Engineer and Chemist. *Signed by :* Henry P. Stevens.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between March 4th and April 10th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"A new synthesis with maleic anhydride." By ENDRE BERNER.
"2-Butyne-1 : 4-diol. Part I. Reactions of the hydroxyl groups." By A. W. JOHNSON.
"2-Butyne-1 : 4-diol. Part II. Reactions involving the triple bond." By A. W. JOHNSON.
"Studies in the polyene series. Part XXIV. The C_{17} acid and C_{18} ketone related to vitamin A." By SIR IAN HEILBRON, E. R. H. JONES, and D. G. O'SULLIVAN.
"Nitration in sulphuric acid. Part I. The nature of the nitrating agent in nitric–sulphuric acid mixtures." By G. M. BENNETT, J. C. D. BRAND, and G. WILLIAMS.
"Nitration in sulphuric acid. Part II. Migration of nitric acid to the cathode during electrolysis in oleum solution." By G. M. BENNETT, J. C. D. BRAND, and G. WILLIAMS.
"Nitration in sulphuric acid. Part III. The influence of nitric acid and other substances upon the oleum–water titration." By J. C. D. BRAND.
"A note on the reaction between gaseous *cyclo*pentadiene and benzoquinone." By A. WASSERMANN.
"Constitution of the mucilage from the bark of *Ulmus Fulva* (Slippery elm mucilage). Part II. The sugars formed in the hydrolysis of the methylated mucilage." By R. E. GILL, E. L. HIRST, and J. K. N. JONES.
"Side-chain bromination of some alkylnaphthalenes with *N*-bromosuccinimide." By NG. PH. BUU-HOI and J. LECOCQ.
"The thermal decomposition of 2 : 3-dihydro-γ-pyran; a new preparation of acrolein." By J. G. BREMNER, D. G. JONES, and S. BEAUMONT.
"Molecular compound formation in the polyphenyl series. Part I. Some compounds formed by 4 : 4′-dinitrodiphenyl." By W. S. RAPSON, D. H. SAUNDER, and E. THEAL STEWART.
"Reactions of ethylene oxides. Part I. Preparation of ethylene sulphides and trithiocarbonates." By C. C. J. CULVENOR, W. DAVIES, and K. H. PAUSACKER.
"The nature of the 2-chloroethyl chlorovinyl sulphide isomers." By (the late) R. C. G. MOGGRIDGE.
"Synthesis of rhamnazin." By K. V. RAO and T. R. SESHADRI.
"Synthesis of 2-arylfurans." By A. W. JOHNSON.
"Reactions of β-methylarabinoside. Part I. 3 : 4-Benzylidene and 3 : 4-ethylidene β-methylarabinopyranoside." By M. A. OLDHAM and J. HONEYMAN.
"Reactions of β-methylarabinoside. Part II. 3 : 4-Acetone β-methylarabinopyranoside. 3 : 4-Dimethylarabinose. The conversion of arabinose into xylose." By J. HONEYMAN.
"The alkyl- and aryl-substituted fluorides of sulphur, selenium, tellurium, and iodine." By H. J. EMELÉUS and H. G. HEAL.
"The chemistry of the higher silanes. Part I. Tetrasilane." By H. J. EMELÉUS and A. G. MADDOCK.
"The solubility of sulphur dioxide in fuming sulphuric acid." By F. D. MILES and T. CARSON.
"Condensation of substituted benzaldehydes with creatinine. Influence of substituents." By V. DEULOFEU and M. FONDOVILA.
"The intracellular vibration frequency of ions in solution." By E. A. MOELWYN-HUGHES.
"Metal sulphide catalysis of a simple cracking reaction." By B. S. KHAMABATA and A. WASSERMANN.
"2 : 4-Dinitrophenylhydrazone of *n*-valeraldehyde." By R. S. AIRS, D. A. FIRTH, and P. J. GARNER.
"The photochemical instability of *cis*- and *trans*-4 : 4′-diamidinostilbene." By A. J. HENRY.
"Antiplasmodial action and chemical constitution. Part VIII. Guanidines and biguanides." By H. KING and I. M. TONKIN.
"The preparation of 4-aminophenyl sulphones. Part II. The reaction between 4-acetamidobenzenesulphinic acid and aromatic nitroso compounds." By S. PICKHOLZ.
"Synthesis of acenaphthene. Part II." By A. SCHÖNBERG, R. MOUBASHER, and A. MOSTAFA.
"The autoxidation of methyl oleate in presence of small proportions of methyl linoleate." By F. D. GUNSTONE and T. P. HILDITCH.
"New syntheses of heterocyclic compounds. Part VII. 6 : 8-Dimethyl-9-amino-7 : 10-diazaphenanthrenes." By V. A. PETROW.
"New syntheses of heterocyclic compounds. Part VIII. The Schmidt rearrangement of 1 : 3-dimethyl-2-azafluorenones (*contd.*)." By V. A. PETROW.
"Strychnine. Part II." By G. R. CLEMO and R. RAPER.
"The mechanism of the Bucherer reaction. Part I. The kinetics of the conversion of naphthylamines to naphthols." By W. A. COWDREY and C. N. HINSHELWOOD.

"The mechanism of the Bucherer reaction. Part II. Isolation of bisulphite compounds from naphthionic acid." By W. A. COWDREY.

"The mechanism of the Bucherer reaction. Part III. Kinetics of the reaction between naphthol-sulphonic acids and sodium bisulphite." By W. A. COWDREY.

"The mechanism of the Bucherer reaction. Part IV. The kinetics of the conversion of naphthols to naphthylamines." By W. A. COWDREY.

"Strychnine and brucine. Part XLIII. Cunine carboxylic acid." By H. L. HOLMES, H. T. OPENSHAW, and (SIR) ROBERT ROBINSON.

"Some derivatives of catechol and pyrogallol. Part I." By R. D. HAWORTH and D. WOODCOCK.

"Some derivatives of catechol and pyrogallol. Part II." By R. D. HAWORTH and A. H. LAMBERTON.

"Addition of nitrogen tetroxide to olefins. Part I. General introduction." By N. LEVY and C. W. SCAIFE.

"Addition of nitrogen tetroxide to olefins. Part II. Ethylene." By N. LEVY, C. W. SCAIFE, and A. E. WILDER SMITH.

"Addition of nitrogen tetroxide to olefins. Part III. Propylene." By N. LEVY and C. W. SCAIFE.

"The preparation of quinoline derivatives from aromatic amines and ethyl ethoxymethylenemalonate." By K. SCHOFIELD and J. C. E. SIMPSON.

"Cinnolines. Part VIII. Esters of 4-hydroxy-cinnoline- and -quinoline-3-carboxylic acids." By J. C. E. SIMPSON.

"Steric inhibition of resonance. Part III. The basic strengths of some dimethyl-substituted aromatic primary and tertiary amines." By G. THOMSON.

"Researches in the phenanthridine series. Part VII. Quaternary salts with urethane and urea substituents." By L. P. WALLS.

"4-*n*-Propyl-picolinic and -pipecolinic acids. Limitations of the Wibaut–Arens reaction with substituted pyridine derivatives." By W. SOLOMON.

"The chemistry of the pyrrocolines. Part I. 2-Methyl- and 2-phenyl-pyrrocoline." By E. T. BORROWS, D. O. HOLLAND, and J. KENYON.

"The chemistry of the pyrrocolines. Part II. Nitroso-derivatives of some substituted pyrrocolines." By E. T. BORROWS, D. O. HOLLAND, and J. KENYON.

"The chemistry of the pyrrocolines. Part III. Nitration." By E. T. BORROWS, D. O. HOLLAND, and J. KENYON.

"The chemistry of the pyrrocolines. Part IV. Reduction of acyl derivatives." By E. T. BORROWS, D. O. HOLLAND, and J. KENYON.

"Strychnine and brucine. Part XLIV. Synthetical experiments. Part II." By H. L. HOLMES, H. T. OPENSHAW, and (SIR) ROBERT ROBINSON.

"The application of the method of molecular rotation differences to steroids. Part III. Steroidal hormones and bile acids." By D. H. R. BARTON.

"A study of the mechanism of oxidation with chromic acid." By W. A. WATERS.

RAOLOGY DEPT.

May, 1946.

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DETROIT

PROCEEDINGS OF THE CHEMICAL SOCIETY.

Minutes of a SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, May 16th, 1946, at 5 p.m.

The President, PROFESSOR C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on the 4th April, 1946, were read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: H. R. Bentley, Loo Ti-hi, R. M. Acheson, R. E. Bowman, T. J. King, D. G. Felton, A. M. Stephen, W. Klyne, V. N. Perryman, (Miss) J. D. Sutton, A. D. Kemp, N. Polgar, S. Shoop, R. J. Wicher, E. F. Thorpe, K. H. Pausacker.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

"Strychnine and Brucine. Part XLII. Constitution of the *neo*-series of Bases and their Oxidation Products." By L. H. Briggs, H. T. Openshaw, and Sir Robert Robinson.

"The Reconversion of D-Homoandrostane Compounds to Derivatives of Androstane." By D. A. Prins and C. W. Shoppee.

OFFICIAL ANNOUNCEMENTS

DEATH.

The Council regret to announce the death on April 6th, 1946, of Alan Francis Titley who was elected a Fellow of the Society on February 19th, 1920.

LIVERSIDGE LECTURE.

Professor H. C. Urey has accepted the invitation of the Council to deliver the Liversidge Lecture during the session 1946—1947.

ERNST JULIUS COHEN MEMORIAL LECTURE.

Professor F. G. Donnan has accepted the invitation of the Council to deliver the Ernst Julius Cohen Memorial Lecture.

SCIENTIFIC MEETINGS IN LONDON, 1946—1947.

As an experiment it has been decided to hold Scientific Meetings at 7.30 p.m. until December 1946, instead of 5 p.m. as at present.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Dr. G. L. E. Wild for a gift of the Society's publications.

LIST OF FELLOWS.

The co-operation of Fellows is earnestly requested in the preparation of a new List of Fellows. It is proposed to issue to each Fellow a card inviting up to date details of his degrees, etc., and the preparation of the list will be greatly facilitated if Fellows will return this card in the envelope to be provided as soon as possible after it is received by them.

ELECTION OF NEW FELLOWS.

The following 88 candidates were elected Fellows of the Chemical Society on the 2nd May, 1946:

Richard Morrin Acheson.
John Aldred.
Leslie Alfred Allen.
Basil Vivian Aller.
Vernon Askam.
John Leggett Bailey.
Alan Edward Blades.
Cecil Bloom.
Ralph Edward Bowman.
Joseph Henry Brooks.
Hamish Brisbane Cameron.
Stanley Frederick Chancellor.
John Cecil Charlton.
Peter Albert Charlwood.
Colin Robert Colman.
William Michael Corbett.
Percy Walmsley Cunliffe.
Deryck Harry Derbyshire.
William Paterson Dore.
Angus Drysdale.
Narendra Nath Dutta.
Colin Eaborn.
Cyril Harry Richard Elston.
Margaret Kerr Fleming.
Arthur Henry Ford-Moore.
George Fragner.
John Leslie Francis.
David Friend.
Jack Gaunt.
Victor Peter Gellay.
George Alexander Gray.
Edwin Ian Greig.
Rowland Hill.
Olive Mary Hooper.
Donald Arthur Hubbard.
William Bell Hutcheson.
Michael Irwin.
Archibald Robert Jamieson.
Oscar Watson Jarvis.
George Johnson.
Albert Joseph Kelly.
Alexander Donovan Kenny.
Har Gobind Khorana.
Siegmund Kut.
Francis Norman Lahey.
Joseph Mundle Laverie.
Douglas Mathon Gent Lloyd.
Jaro Marcha.
William Henry Simpson Massie.
Edward Stewart Maurer.
William Vernon Mitchell.
Oliver Charles Musgrave.
Geoffrey Norcross.
Stanley Cecil Nyburg.
Gerald Maurice Pam.
Peter Ludwig Pauson.
Victor Neil Perryman.
Sheonath Prasad.
Stanley Carter Price.
Raymond Bliss Richards.
Thomas Norman Richardson.
Dudley Ridge.
Douglas Keir Roberts.
Frank Wilson Roberts.
John Norman Robson.
Rose Mary Sales.
Louis Kenneth Sharp.
George Wenham Shaw.
James Harry Shelton.
Stanley Shoop.
Terence Anthony George Silk.
Frederick Ivan Gordon Small.
John Frederick Smith.
Bernard Alfred Southgate.
Geoffrey Stott.
Frederick William Thomas.
Margaret Todd.
David Warren Turner.
Frank Twyman.
Eugene Boris Uvarov.
Frank Arthur Walker.
Henry Warson.
Basil Edmund Waye.
Ronald James Wicker.
John Bertrand Wilkinson.
William James Talbot Wilkinson.
Elin Mair Llywelyn Williams.
Alan Herries Wilson.

MEETINGS OUTSIDE LONDON.

SOUTHAMPTON.

" Penicillin," by A. H. Cook, Ph.D., D.Sc., F.R.I.C.

Activities of the Chemical Society in the Southampton area were inaugurated in an auspicious manner on Friday, May 3rd, by a joint meeting with the University College Chemical Society, held in the Physics Lecture Theatre, University College, Southampton. Professor Sir Ian Heilbron had intended to speak on the " Chemistry of Penicillin," but owing to absence on a visit to the U.S.A. was prevented from lecturing. At relatively short notice his place was taken by Dr. A. H. Cook. The Lecturer was introduced to the crowded audience by Mr. H. W. B. Reed.

Dr. Cook, of the penicillin team at the Imperial College of Science and Technology, gave an exceptionally interesting and lucid account of the complexities of penicillin chemistry. A method of purification in the laboratory was described and also the experiments leading to the view that penicillin is in fact a series of compounds of related structure. The degradation of these and structural proofs of the products were outlined. This led to consideration of the possible structures for the penicillins themselves and the partial syntheses that have been carried out. The lecture was followed by vigorous discussion. A vote of thanks, carried with acclamation, was proposed by Dr. S. H. Harper (Local Representative of the Society).

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries not later than June 30th,* 1946. *Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Anderson, John Gerrard. British. 58, Evan Drive, Giffnock, Glasgow. Student of Chemistry. *Signed by :* W. M. Cumming, W. G. Alexander, Henry G. A. Anderson, I. V. Hopper, John A. Cranston.

Bailey, Harold Cecil, B.Sc.Hons. (Lond.), A.R.I.C. British. 7, Boundaries Road, Feltham. Technical Assistant, Ministry of Supply. *Signed by :* A. E. Corker, Cecil L. Wilson, G. G. S. Dutton.

***Bending, Betty Doreen,** B.Sc.Hons. (Wales). British. 38, Wyeverne Road, Cathays, Cardiff. Teacher of Chemistry, Edgehill College, Bideford. *Signed by :* W. J. Jones, N. M. Cullinane, S. T. Bowden.

Boucher, Alfred Arnold. French. c/o Union Glue and Gelatine Co., Ltd., Gransley Works, Garrett Lane, E.C. 1. Managing Director. *Signed by :* Royston Barry Drew, Roger Duncalfe, N. L. Holmes.

Butterworth, Basil, B.Sc. (Lond.), A.R.I.C. British. Longview, Church Grove, Amersham. Research Chemist. *Signed by :* F. C. Harper, W. G. Grindle, D. G. R. Bonnell.

Campbell, Colin, B.Sc. (Manc.). British. c/o Savory and Moore, Ltd., Standard Works, Lawrence Road, Tottenham, N. 15. Organic Chemist. *Signed by :* S. G. Stevenson, E. T. Neathercoat, Frank G. Dewdney.

Cherry, Alexander William. British. Ivanhoe, Lickey Rock, Bromsgrove. Chief Chemist, William Mills Ltd., Friar Park, Wednesbury. *Signed by :* T. G. Pearson, A. C. Coates, L. L. Bircumshaw.

***Cohen, David Lionel.** Inter.B.Sc. British. 265, Blackley New Road, Manchester 9. Student at Manchester University. *Signed by :* A. E. Gillam, Colin Campbell, Fred Fairbrother.

***Cornish, Frank William.** Inter.B.Sc. (Lond.). British. 120, Beccles Drive, Barking. Student at University College of the South West, Exeter. *Signed by :* K. Schofield, H. T. S. Britton, R. King.

***Crawley, Ralph Hugh Alfred,** B.Sc. (Lond.), A.R.C.S., A.R.I.C. British. 3, Sunnymede Avenue, Carshalton. Chemical Analyst. *Signed by :* P. J. Hardwick, B. A. Ellis, C. E. Barton.

Dunn, Michael Isidore. A.R.T.C. (Salford). British. 8, Galway Avenue, Bispham, Blackpool. Royal Air Force. *Signed by :* H. B. Watson, J. Ormston, W. D. Williams.

Falconer, Roderick, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 17, The Close, Chilwell. Biochemist. *Signed by :* G. Sykes, John W. Albans, Harold Calam.

Farthing, Alan Charles, B.A.Hons. (Oxon). British. Chomlea, Claremont Road, Salford, 6. Chemist, I.C.I. Ltd., Dyestuffs Division, Blackley, Manchester. *Signed by :* G. D. Parkes, S. G. P. Plant, D. Ll. Hammick

Forsyth, James Sneddon, B.Sc. (Glas.), Ph.D. (Leeds), A.R.I.C. British. 141, Wensley Drive, Leeds, 7. University Lecturer. *Signed by :* H. J. Hodsman, D. T. A. Townend, A. L. Roberts.

Francis, Nehemiah, Ph.C. British. Mount Pleasant, Wellow, near Yarmouth, Isle of Wight. Lecturer in Pharmaceutics, Portsmouth Municipal College. *Signed by :* C. G. Lyons, L. Crombie, C. M. Bere.

Gilbert, Geoffrey Alan, M.A. and Ph.D. (Cantab.). British. 5, Ascot Road, Moseley, Birmingham. Research Fellow. *Signed by :* L. L. Bircumshaw, W. N. Haworth, J. Sheridan.

Gotttfried, Siegfried, M.D. and D.Sc. (Paris). Rumanian. 93, Kingshill Avenue, Kenton. Consultant and Works Manager. *Signed by :* M. Briscoe, A. B. Curtis, Robt. E. Goldsbrough.

***Grieve, Alan,** Inter.B.Sc. (Lond.). British. 20, Norbury Avenue, Thornton Heath. Student of Metallurgy, Cardiff University. *Signed by :* Ian H. Slicer, N. M. Cullinane, S. J. Chard.

Grove, John Frederick, B.Sc. (Lond.). British. c/o Imperial Chemical Industries Ltd., Jeallots Hill Research Station, Bracknell. Research Chemist. *Signed by :* John C. McGowan, Kathleen J. Sinclair, Francis M. Page.

***Grundy, Jesse,** Inter.B.Sc. English. 7, Moore Street, Whelley, Wigan. Student, Manchester University. *Signed by :* A. E. Gillam, F. Fairbrother, H. T. Openshaw.

Herz, Edward Richard, Inter.B.Sc. German (applying for Naturalisation). 40, Princes Court, Wembley. Assistant Chemist. *Signed by :* Yvonne M. Way, W. Robson, C. E. Dent.

Hetherington, Arthur Clement, B.Sc. and Ph.D. (Edin.), A.R.I.C. British. Wayside, Elm Close, Farnham Common. Research Chemist, Manager, Technical Relations Department, I.C.I. Ltd., Paints Division, Wexham Road, Slough. *Signed by :* J. R. Hosking, D. V. Arnold, J. W. Dorling.

Hodges, William Samuel, B.Sc. (Lond.), A.R.I.C. British. 22, Ravensfield Road, Welwyn Garden City. Chemist. *Signed by :* J. F. Hirst, Richard N. Jones, J. Alan Emlyn.

***Howland, Alfred Harold,** B.Sc.Hons. (Lond.). British. 30, Harvel Crescent, Abbey Wood, S.E. 2. Research Chemist at Celanium Ltd., Friars Watch, Walthamstow. *Signed by :* C. Bloomfield, D. B. Smith, W. D. Parker.

***Hunt, Eric William,** B.Sc.Hons. and Dyeing Diploma (Leeds), A.R.I.C. British. Devonshire Hall, Headingley, Leeds, 6. Research Student. *Signed by :* F. R. Goss, Frederick M. Rowe, E. Race, Arnold T. Peters.

Jackson, Alistair Frederick McKenzie, B.Sc. (Lond.). British. 53, Gains Road, Southsea. Research Chemist at Walter Gregory & Co., Wellington, Somerset. *Signed by :* David Wyllie, L. Crombie, K. G. McInnes.

James, Anthony Trafford, B.Sc.Hons. (Lond.). British. 3, Endsleigh Street, W.C. 1. Scientific research on behalf of the Medical Research Council. *Signed by :* B. R. Jacobs, E. E. Turner, Mary S. Lesslie.

Jones, Herbert Edwin, B.A. and B.Sc. (Oxon.), F.R.I.C. British. Avondene, Chester Road, Northwich. Technical Service Manager, I.C.I. Ltd., Alkali Division, Northwich. *Signed by :* J. Ferguson, J. Haslam, L. M. Clark.

Kohn, David Harry, Chem. Eng. (Haifa). Palestinian. 136, Wymering Mansions, W. 9. Research in Organic Chemistry at King's College, London. *Signed by :* D. H. Hey, Gwyn Williams, P. C. Crofts.

Lain, Archibald Ernest, A.R.I.C., M.P.S. British. 42, Osidge Lane, N. 14. Works Chemist. *Signed by :* L. A. Jordan, S. H. Bell, A. C. C. Newman.

Lewin, Christina Thomson, B.Sc. (Glas.). British. Chemistry Department, The University, Glasgow. Lecturer, Chemistry Department. *Signed by :* James Bell, James D. Loudon, J. W. Cook.

Lincoln, Philip Arthur, B.Sc. (Lond.). British. 16, Cheyne Avenue, Woodford, E. 18. Works Chemist. *Signed by :* Charles S. Gibson, H. Holmes, K. O. Michaelis.

Mackinnon, Alan, B.Sc. (Glas.), A.R.I.C. British. The Edinburgh Essence Co., Ltd., Silvermills, Edinburgh, 3. Analytical Chemist. *Signed by :* A. Scott Dodd, J. W. Cook, C. Buchanan.

Marler, Clive William Coker. British. G2, Meece House Annexe, Cold Meece, Stone. Analytical Chemist with the Chief Chemical Inspector, Ministry of Supply. *Signed by :* W. F. Bennett, Frederick J. Hall, A. H. Coates.

Moir, Daniel Donald, M.Sc. (Lond.), F.R.I.C. British. Analytical Laboratory, 16, Southwark Street, S.E. 1. Public Analyst and Consulting Chemist. *Signed by :* Edward Hinks, H. Amphlett Williams, George W. Ferguson.

Morris, Ernest Devereux, B.Sc.Hons. (Lond.), F.R.I.C. British. 46, Beverley Road, Whyteleafe. Industrial Chemist, Morgan Crucible Co., Ltd., S.W. 11. *Signed by :* S. Sugden, F. H. Milner, H. J. T. Ellingham.

Newbury, Bert Charles, B.Sc.Hons. (Bristol), A.M.Inst.F. British. 1, Grove Terrace, Wolveston Road, Billingham. Chemist. *Signed by :* W. E. Garner, F. R. Williams, A. J. Prince.

Newton, Guy Geoffrey Frederick. British. Fairfield Bury, St. Ives, Hunts. Student, Part II Natural Sciences Tripos, Cambridge University. *Signed by :* F. S. Dainton, B. C. Saunders, A. J. B. Robertson.

Onyon, Peter Frederick, A.R.I.C. British. 30, Crampers Field, Coventry. Technical Assistant, Courtaulds Ltd. *Signed by :* W. Etheridge, H. J. Hegan, R. L. Wormell.

***Pierpoint, Edward Keith,** B.Sc.Hons. (L'pool). British. 10, Wembley Road, Liverpool, 18. Post graduate work at University. *Signed by :* A. McGookin, W. B. Whalley, N. J. Cartwright.

***Poppy, Richard Gilbert.** British. 73, Eden Road, Elmers End, Beckenham. Laboratory Assistant, Wellcome Physiological Research Laboratories, Langley Court, Beckenham. *Signed by :* E. A. Seeley, Ethel Bidwell, C. G. Pope.

Raynor, Mrs. Emily Jean, M.A. and D.Phil. (Oxon), A.R.I.C. British. 76, Witherford Way, Selly Oak, Birmingham, 29. Chemistry Mistress, King Edward VI Grammar School for Girls, Camp Hill, Birmingham, 11. *Signed by :* Harry Irving, J. W. Linnett, F. M. Brewer.

***Ross, John Alexander,** B.Sc.Hons. (Dun.). British. 4, Kielder Road, Earsdow, Shiremoor. Assistant Chemist, Bakelite Ltd. *Signed by :* H. L. Riley, P. L. Robinson, W. M. Madgin.

***Royer, Richard Penn,** B.Sc. (Sydney). British. 41, Parriwi Road, Mosman, N.S.W., Australia. Research Fellow, University of Sydney. *Signed by :* Adrien Albert, J. C. Earl, D. J. Brown.

***Rundell, John Trethowan,** B.Sc. (Lond.), A.R.C.S. British. 124, Goddington Lane, Orpington. Works Chemist, Kolster-Brandes, Sidcup. *Signed by :* Walter A. Woodrow, P. W. L. Gossling, H. V. A. Briscoe.

Silcocks, Clifford George, B.Sc.Hons. and Ph.D. (Bristol), A.R.I.C. British. 41, Basbow Lane, Bishop's Stortford. Research Chemist. *Signed by :* Martin Apley, D. N. Buttrey, George Bell.

Simpson, Thomas Hardy, B.Sc. (L'pool). British. 85, South Promenade, St. Annes-on-Sea. Research Student, Liverpool University. *Signed by :* A. McGookin, Francis W. Kay, Wm. Doran.

***Sneeden, Raymond Philippe Alexandre,** B.Sc.Hons. (Glas.). British. 39, Kingshouse Avenue, King's Park, Glasgow, S. 4. Research Student. *Signed by :* J. W. Cook, S. Horwood Tucker, David T. Gibson.

Stevens, William Henry, A.R.C.S., F.R.I.C. British. 7, Page Heath Lane, Bickley. Consulting Chemist. *Signed by :* Philip Schidrowitz, T. H. Blakeley, M. B. Donald.

***Stock-Dunne, Michael Patrick,** B.Sc. (Lond.), A.R.I.C. British. Organon Laboratories, Deer Park Road, Lombard Road, Morden. Chemist. *Signed by :* C. L. Hewett, H. J. T. Ellingham, R. L. Collett.

Strom, Eric Greve, B.Sc. (Melbourne). British. 34, Eildon Road, St. Kilda, Victoria, Australia. Research Chemist. *Signed by :* S. F. Birch, W. S. Cockayne, W. J. Oldham.

***Turner, Philip Beckitt.** British. 6, Sharpe Avenue, Beauchief, Sheffield, 8. Chemistry Student of Lincoln College, Oxford. *Signed by :* Ronald P. Bell, T. J. King, N. V. Sidgwick.

***Watson, George Arthur,** Inter.B.Sc. (Lond.). British. 45, Blakelock Terrace, West Hartlepool. Laboratory Assistant at the South Durham Steel and Iron Co., Ltd. *Signed by :* G. H. Christie, Leonard T. Raeburn, G. W. Watson Young.

Wesley, Frank, A.R.I.C., M.P.S. British. 40, Onslow Drive, Sidcup. Analytical Chemist. *Signed by :* L. M. Miall, Stephen Miall, D. M. Freeland.

Williams, William Frank, B.Sc. (L'pool), A.R.I.C. British. 113, Old Clough Lane, Worsley, Manchester. Technical Representative. *Signed by :* C. G. Hampson, Geoffrey Ogden, H. Jasperson.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Avramoff, Moise Haim, M.Sc. (Jerusalem). Palestinian. 34, Wolfson Street, Petah-Tiqva, Palestine. Chemist at Assia Chemical Laboratories, Tel Aviv. *Signed by :* M. M. Neeman.

Bhagvat, Madhav Balaji, M.Sc. (Bombay), A.I.I.Sc. British. Tata Chemicals Ltd., P.O. Mithapur, Kathiawad, India. Works Superintendent. *Signed by :* K. Venkataraman.

Croston, Frank C., M.A. and Ph.D. (Ohio State Univ.). American. c/o Battelle Memorial Institute, 505, King Avenue, Columbus 1, Ohio. Research Chemist and Engineer. *Signed by :* John D. Sullivan.

Diaz, Fernando Orozco, Ph.D. (Marburg/L.), Chem.Eng. (Mexico). Mexican, Instituto de Quimica, Cruces 5, Tacuba, D.F., Mexico. Director of the Instituto de Quimica of the University of Mexico. *Signed by :* Octavio Mancera.

Evans, Basil Edward, M.I.Chem.E. British. La Productora de Borax S.A., Apartado 391, Barcelona, Spain. Works Manager (Borax Consolidated Ltd.). *Signed by :* A. J. Somers.

Gemmell, Gordon Douglas, M.Sc.Hons. British. c/o Soil Research Bureau, Department of Scientific and Industrial Research, 54, Molesworth Street, Wellington, New Zealand. Soil Chemist, Soil Research Bureau. *Signed by :* J. K. Dixon, R. B. Miller.

Johannesson, John Ker, M.Sc. (New Zealand). British. c/o Soil Research Bureau, 54, Molesworth Street, Wellington, New Zealand. Assistant Soil Chemist. *Signed by :* R. B. Miller, J. K. Dixon.

Lazier, Wilbur Arthur, M.S. and Ph.D. (Winconsin). American. 917, South 20th Street, Birmingham, 5, Alabama. Director, Southern Research Institute. *Signed by :* Hugh S. Taylor.

Nasanen, Reino Olavi, Ph.D. (Helsinki). Finnish. Unionink 40, Helsinki, Finland. Lecturer in Chemistry in the University of Helsinki. *Signed by :* G. T. Ostling, Walter Wahl.

Seshan, Pallassena Krishna, M.Sc. (Madras), A.R.I.C. Indian. 35/3 Hanbury Road, Kirkee, G.I.P., India. Chemist, High Explosives Factory, Kirkee. *Signed by :* B. B. Dey.

Stein, Walter Edward, D.Sc. (Prague), A.M.I.Chem.E. Czechoslovakian. H.M. Cordite Factory, Aruvankadu, The Nilgiris, South India. Assistant Civil Engineer and Assistant Works Manager, Indian Ordnance Service. *Signed by :* M. B. Donald.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between April 10th and May 13th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Strychnine and brucine. Part XLV. Synthetical experiments. Part III." By H. T. OPENSHAW and (SIR) ROBERT ROBINSON.

"Δ^9-Androstene-3 : 17-dione." By C. W. SHOPPEE.

"Decompositions of the aromatic diazo-compounds. Part XI. A note on the mechanism of formation of azo-compounds, polyaryls, and aryl sulphides." By K. H. SAUNDERS and W. A. WATERS.

"The tetrazotisation of the 1 : 5- and 1 : 8-naphthylenediamines and the tetranitration of the naphthalene-1 : 5- and 1 : 8-di-*p*-toluenesulphonamides." By H. H. HODGSON and J. S. WHITEHURST.

"Studies in light absorption. Part III. Auxochromic properties and the periodic system." By K. BOWDEN, E. A. BRAUDE, and E. R. H. JONES.

"Researches on acetylenic compounds. Part VI. Carbinols derived from methyl β-chlorovinyl ketone and their conversion to unsaturated aldehydes." By E. R. H. JONES and B. C. L. WEEDON.

"Researches on acetylenic compounds. Part VII. Reactions of 2-chlorohex-3-en-5-yne and related compounds with ammonia and amines. Reversed anionotropic rearrangements, accompanying replacement." By E. R. H. JONES, R. N. LACEY, and P. SMITH.

"Researches on acetylenic compounds. Part VIII. Miscellaneous addition reactions of ethynyl ketones." By K. BOWDEN, E. A. BRAUDE, and E. R. H. JONES.

"Researches on acetylenic compounds. Part IX. Heterocyclic compounds derived from ethynyl ketones." By K. BOWDEN and E. R. H. JONES.

"Unsaturated lactones. Part I. (Researches on acetylenic compounds. Part X.) A new route to growth inhibitory αβ-ethylenic γ- and δ-lactones." By L. J. HAYNES and E. R. H. JONES.

"The oxidation of β-carotene in solution by oxygen." By R. F. HUNTER and R. M. KRAKENBERGER.

"The configuration of heterocyclic compounds. Part XI. Preparation of phenoxstibines and resolution of 10-*p*-carbethoxyphenyl-2-methylphenoxstibine." By (MISS) I. G. M. CAMPBELL.

"The action of acidic reagents on ethylene oxide anhydro sugars. Part I. On the action of acid reagents on 2 : 3-anhydro-4 : 6-benzylidene α-methylalloside." By F. H. NEWTH, W. G. OVEREND, and L. F. WIGGINS.

"Some observations on the ring scission of 2 : 3-anhydro-4 : 6-benzylidene α-methylmannoside with ammonia." By L. F. WIGGINS.

"1 : 2 : 3 : 4-Tetrahydro*iso*quinaldinic acid." By W. SOLOMON.

"The constitution of yeast ribonucleic acid. Part X. Further studies on the nature of the carbohydrate radicals." By G. R. BARKER, (MRS.) K. R. FARRAR, and J. M. GULLAND.

"Acid-base catalysis in non-aqueous solvents. Part X. The isomerisation of methyl mesityl oxide oxalate in chlorobenzene solution at 99° C." By R. P. BELL and (MRS.) S. M. RYBICKA.

"Diglycyl ethylenediamine." By T. L. COTTRELL and J. E. GILL.

"The catechins of green tea. Part I." By A. E. BRADFIELD, (MISS) M. PENNEY, and (in part) (MISS) W. B. WRIGHT.

"The addition of thio compounds to olefins. Part I. Reactions of thioglycollic acid, thiophenol, and *iso*amyl mercaptan." By J. I. CUNNEEN.

"Synthetic antimalarials. Part XI. The effect of variation of substituents in derivatives of mono- and di-alkylpyrimidines." By R. HULL, (MISS) B. J. LOVELL, H. T. OPENSHAW, and A. R. TODD.

"Derivatives of *peri*naphthindantrione." By R. MOUBASHER and (MRS.) A. MOSTAFA.

"The synthesis of some arylpyridyl sulphones (arylsulphonylpyridines)." By H. BURTON and W. A. DAVY.

"Synthetic mydriatics." By A. H. FORD-MOORE and H. R. ING.

"The copper sulphide catalysed dimerisation of *iso*butene." By A. WASSERMANN and W. T. WELLER.

"Note on the pro-vitamin-A activity of mutatochrome." By N. T. GRIDGEMAN, R. F. HUNTER, and N. E. WILLIAMS.

"The rearrangement of 1-phenacyl-α-phenylethyldimethylammonium bromide." By A. CAMPBELL, A. H. HOUSTON, and J. KENYON.

"The reaction of *p*-acetamidobenzenesulphonyl azide with pyridine." By J. N. ASHLEY, G. I. BUCHANAN, and (in part) A. P. T. EASSON

"Acid catalysis in the iodination of phenol. Iodination by acylhypoiodites." By B. S. PAINTER and F. G. SOPER.

"The search for chemotherapeutic amidines. Part IV. Two polyamidines." By H. J. BARBER and R. SLACK.

"The search for chemotherapeutic amidines. Part V. Phenanthridines." By H. J. BARBER, (MISS) P. Z. GREGORY, F. W. MAJOR, R. SLACK, and A. M. WOOLMAN.

"The search for chemotherapeutic amidines. Part VI. Pyridines." By (MISS) P. Z. GREGORY, S. J. HOLT, and R. SLACK.

"Estimation of zinc in bronze." By V. R. M. REES.

"Estimation of zinc in brass." By V. R. M. REES.

"Solvent quenching of fluorescence." By E. J. BOWEN and E. COATES.

"Researches in the phenanthridine series. Part VIII. Further investigation of trypanocidal types." By L. P. WALLS.

"Viscosities of aqueous solutions of amino-acids with some conductivity values." By A. E. BELL and W. M. MADGIN.

"The reduction of 1 : 1′-azonaphthalene and of some 4 : 4′-derivatives." By H. H. HODGSON and J. HABESHAW.

"Contributions to the chemistry of pyridine. Part II. On 2-methyl-5-hydroxypyridine." By T. URBAŃSKI.

"Contributions to the chemistry of pyridine. Part III. Condensation of 2-methyl-5-hydroxypyridine with formaldehyde in alkaline medium." By T. URBAŃSKI.

"Contributions to the chemistry of pyridine. Part IV. Preparation of 2-methyl-3-hydroxypyridine." By T. URBAŃSKI.

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PROCEEDINGS
OF THE
CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held jointly with the Oxford University Alembic Club at the Physical Chemistry Laboratory, South Parks Road, Oxford, on Thursday, 6th June, 1946, at 2 p.m.

MINUTES.

The Minutes of the Scientific Meeting held on the 16th May, 1946, were read and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: D. M. G. Lloyd, P. E. Sagrott, R. Williams, B. Courtney, G. O. Aspinall, N. M. Green, D. Holmes, C. J. Danby, J. A. Pegg, A. M. James, R. L. Huang, S. C. Wallwork, O. W. Jarvis, J. E. Prue, W. C. E. Higginson, K. B. Everard, J. A. Barltrop P. R. Lewis, E. H. Cole, L. P. Ellinger, H. M. Muir, A. Robertson, S. H. Morrell, L. O. Butler, L. Dickinson, B. Somade, T. B. Swanson, E. B. J. Smith, A. E. Kaye, F. C. Storrs, H. C. Longuet-Higgins.

DISCUSSION.

The President called on Sir Robert Robinson to open the Discussion on "The Chemistry of Antibacterial Substances" and the following contributions were made:

1. "Structural Problems in the Chemistry of Antibacterial Substances," by Sir Robert Robinson, D.Sc., P.R.S.
2. "Antibacterial agents in relation to Bacterial Metabolism," by D. D. Woods, M.A., Ph.D.
3. "Some Physico-chemical aspects of Antibacterial Action," by J. M. G. Pryce, B.A., and Professor C. N. Hinshelwood, Sc.D., F.R.S.

Other contributors included Dr. E. B. Chain, Dr. D. M. Hodgkin, and Dr. H. W. Thompson.

At the conclusion of the Discussion the President thanked those who had taken part and called upon Dr. Le Févre who proposed a vote of thanks to the Oxford University Alembic Club for acting as hosts, which was carried with acclamation.

OFFICIAL ANNOUNCEMENTS.

EXCHANGE OF GREETINGS WITH THE DANISH CHEMICAL SOCIETY.

The following message of greeting from the President was conveyed to the Danish Chemical Society by Mr. R. P. Bell:

May, 1946.

To the President and Members of the Danish Chemical Society.

The Council of the Chemical Society at a recent meeting learned with pleasure that Mr. R. P. Bell, one of the Council members, was shortly to visit Copenhagen for the purpose of lecturing before the Danish Chemical Society.

Regarding this as a welcome sign of the renewed relations between the Chemical Societies of our two countries, the Council have asked me to convey to you, in a letter which will be borne by Mr. Bell, their most hearty greetings.

Danish chemistry has long been regarded in Britain with respect and admiration and for many years the personal relations between Danish and British chemists have been close and cordial. The interruption of these relations by the war has been not least among the many intellectual deprivations of the past years and their resumption, which we hope will now proceed with increasing vigour, is a source of deep satisfaction.

Mr. Bell brings not only our most cordial greetings but our best wishes that the Danish Chemical Society shall long continue to render its illustrious services to science.

(*Signed*) C. N. HINSHELWOOD.
President.

The following reply was received:

June 1946.

To the President of the Chemical Society, London.

It has been a great pleasure to us and a great honour to receive your letter delivered to us by Mr. R. P. Bell of Oxford, member of your Council.

The letter was read at our meeting on June 3rd in connection with the first lecture of Mr. Bell and was received with unanimous applause from the audience.

We find your words far too kind, and we all feel the loss we have suffered during the occupation by not being able to maintain the contact with chemists of the Anglo-American part of the world and to follow the rapid development of science in these countries during the war. We enjoy being able to re-establish the contact with our British colleagues, and thereby to receive those impulses, which are of the utmost importance for all scientific work.

We regard with admiration the spirit which has conducted Great Britain and thereby our civilization through the dark years. We are convinced that this spirit to a great extent is the result of that sense of what is essential in life taught in your illustrious universities with their old traditions.

(*Signed*) Y. A. CHRISTIANSON.
President.

EXTRAORDINARY GENERAL MEETING.

The following notice has been issued to all Fellows in the British Isles:

EXTRAORDINARY GENERAL MEETING.

Notice is hereby given that an Extraordinary General Meeting of The Chemical Society will be held in the Society's Rooms, Burlington House, London, W.1, on Thursday, 25th July, 1946, at 3 p.m. to confirm, under Bye-Law 8, the following proposal of Council.

"That as from 1st January, 1947, the amount of the annual subscription be increased from three pounds (£3) to three pounds ten shillings (£3 10*s*.) and that a corresponding increase be made in the amount of the life composition fee."

By order of the Council,
C. N. HINSHELWOOD.
President.

1*st July*, 1946.

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Joseph Edwin Alger Blyde	1896	May 30th, 1946.
Alexander Bruce	1902	Feb. 12th, 1946.
John Addyman Gardner	1893	May 13th, 1946.
Thomas John Greenway	1885	March 12th, 1946.
James Hart-Smith	1900	April 20th, 1946.
Edward Hinks	1908	May 25th, 1946.
John Ernest Inkster	1944	Jan. 4th, 1946.
John Charles Mascarenhas	1898	Jan. 22nd, 1946.
John Calvert Oxley	1917	May 16th, 1946.
Edmund Brydges Rudhall Prideaux	1922	May 8th, 1946.
Arnold Shepherdson	1932	Feb. 9th, 1946.
Edwin John Woodcock	1925	Sept. 6th, 1944.

CONGRATULATIONS.

1. *Birthday Honours List.*

The congratulations of the Council have been conveyed by the President to the following Fellows whose names appear in the Birthday Honours List:

K.B.E.

J. E. Lennard-Jones.

Knight Bachelor.

H. Jephcott.

C.B.E.

R. B. Bourdillon.
W. A. Damon.
W. E. Garner.
R. P. Linstead.
A Parker.
R. N. Garrod-Thomas.

2. 50 *Years of Fellowship.*

Congratulations have also been conveyed to the following Fellows who have completed 50 years of Fellowship.

	Elected.
William Goodwin (Wye)	May 7th, 1896.
John McCrae (Johannesburg)	May 7th, 1896.
Henry Fishwick Robinson (Manchester)	May 7th, 1896.
Otto Rosenheim (N.W.11)	May 7th, 1896.
Llewellyn John Davies (Cardiff)	June 18th, 1896.
Joshua Arthur Hughes (Abercarn)	June 18th, 1896.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Dr. R. L. Garbutt, Miss P. Turner Jones, Mr. A. Merrick, Mr. W. B. Saville, and Dr. A. L. Stern, for gifts of the Society's publications and to Major F. A. Freeth for a gift of scientific books.

COMMITTEES, 1946—47.

The Council have conveyed their thanks to the retiring members of Committees for the services they have rendered to the Society.

The following Committees have been appointed for 1946—1947:

Finance and General Purposes Committee.

H. J. Channon, J. W. Cook, C. J. T. Cronshaw, Sir Ian Heilbron, R. P. Linstead, W. H. Mills, F. Roffey, D. T. A. Townend, together with the Officers, the Chairman of the Publication Committee and the representative of the Joint Library Committee on the Council of the Chemical Society; the President as Chairman, Treasurer as Vice-Chairman, and the General Secretary as Secretary.

Publication Committee.

C. N. Hinshelwood, as Chairman, N. K. Adam, M. P. Applebey W. Baker, G. M. Bennett, E. J. Bowen, J. E. Coates, J. W. Cook, E. G. Cox, H. J. Emeléus, C. S. Gibson, C. R. Harington, E. L. Hirst, C. K. Ingold, D. J. G. Ives, E. R. H. Jones, J. Kenyon, F. E. King, G. A. R. Kon, F. G. Mann, T. S. Moore, R. G. W. Norrish, S. G. P. Plant, M. Polanyi, H. Raistrick, F. L. Rose, B. C. Saunders, D. W. G. Style, H. W. Thompson, together with the Officers, and the Editor as Secretary.

Research Fund Committee.

N. K. Adam, A. J. Allmand, J. E. Coates, M. G. Evans, J. M. Gulland, R. D. Haworth, C. K. Ingold, J. Read, A. R. Todd, together with the Officers; the President as Chairman, and the General Secretary as Secretary.

Publications Exchange Committee.

H. Bassett, T. A. Henry, E. R. H. Jones, G. A. R. Kon, together with H. J. Emeléus (ex-officio representative of the Joint Library Committee on the Council), the Officers, and four representatives appointed by the Bureau of Abstracts, with the Librarian as Secretary.

CENTENARY CELEBRATIONS EXECUTIVE COMMITTEE.

The membership of the Executive Committee is as follows: Professor C. N. Hinshelwood (*Chairman*), Dr. M. P. Applebey, Mr. A. L. Bacharach (*Chairman of Publicity Sub-Committee*), Dr. G. M. Bennett, Dr. F. H. Carr, Mr. S. E. Carr, Professor J. W. Cook, Dr. C. J. T. Cronshaw, Mr. F. P. Dunn (*Chairman of Finance Sub-Committee*), Sir Alfred Egerton, Professor A. Findlay (*Chairman of Meetings, Entertainments and Social Functions Sub-Committee*), Professor C. S. Gibson, Professor J. M. Gulland, Sir Ian Heilbron (*Chairman of the Reception, Membership and Accommodation Sub-Committee*), Lady Heilbron (*Chairman of the Ladies Sub-Committee*), Professor D. H. Hey, Professor E. L. Hirst, Professor C. K.

Ingold, Dr. L. H. Lampitt, Dr. R. P. Linstead, Professor T. S. Moore (*Chairman of the Centenary Volume Sub-Committee*), Sir Robert Pickard, Mr. H. V. Potter, Mr. J. Davidson Pratt, Professor E. K. Rideal, Sir Robert Robertson (*Chairman of the Exhibition Sub-Committee*), Sir Robert Robinson, Dr. F. Roffey, Professor N. V. Sidgwick, Dr. J. L. Simonsen, Professor A. R. Todd, Professor W. Wardlaw, with Dr. D. C. Martin as Secretary.

LOCAL REPRESENTATIVES.

(*a*) **Cambridge.**

Dr. B. Lythgoe has been appointed to succeed Dr. F. S. Dainton, who has resigned, as Local Representative for Cambridge.

(*b*) **Liverpool.**

Mr. L. A. Haddock and Dr. W. B. Whalley have been appointed as joint Local Representatives to succeed Dr. A. McGookin who has resigned as Local Representative for Liverpool.

(*c*) **Newcastle and Durham.**

Dr. Wesley Cocker has been appointed to succeed Dr. G. H. Christie, who has resigned, as Local Representative for Newcastle and Durham.

The thanks of Council have been sent to the retiring Local Representatives.

RESEARCH FUND.

The Council have made the following grants from the Research Fund:

	£	s.	d.
Exeter, University College.			
K. Schofield, " Investigation of the chemistry of cinnoline derivatives "	30	0	0
Leeds, University.			
A. Audsley, " Relationships between structure and dielectric solvent effect "	10	0	0
J. Gaunt, " Polar and steric factors in the catalysed and uncatalysed reactions of isocyanates with –OH compounds "	10	0	0
H. B. Hopkins, " The cyanohydrin equilibrium with halogenobenzaldehydes "	10	0	0
R. W. Saville, " The effect of substitution on condensation reactions between acid derivatives and aromatic compounds "	10	0	0
London, Guy's Hospital Medical School.			
W. L. Gent, " The electric dipole moments of some heterocyclic compounds "	20	0	0
London, Queen Mary College.			
C. M. French, " Preparation and physical properties of hydrides and fluorides of nitrogen "...	15	0	0
London, Royal Holloway College, Englefield Green.			
M. M. T. Plant, " Investigations on the polysaccharide material obtainable from the Green Alga, Ulva "	10	0	0
Bangor, University College of North Wales.			
I. Dostrovsky, " Steric factors in substitution reactions "	20	0	0
J. Graham, " Steric factors in the reactions of carboxylic compounds "	20	0	0

UNIVERSITY OF SHEFFIELD.

Professor R. Whytlaw-Gray represented the Society at the Installation of the Right Honourable the Earl of Harewood as Chancellor of the University of Sheffield on the 25th June, 1946.

LIBRARY.

From July 16th until September 30th the Library will open daily from 10 a.m. to 5 p.m., except during the fortnight August 5th to August 17th inclusive, when it will be entirely closed for revision and cleaning.

BRITISH STANDARD SPECIFICATIONS.

The following drafts have been received and Fellows wishing to make technical comment are requested to do so to the British Standards Institution, 28, Victoria Street, Westminster, S.W.1, by August 7th, 1946, in the case of

(*a*) CH(C) 4204. Second Draft B.S. for Micro-Chemical Carbon and Hydrogen Combustion Trains,

and by September 2nd, 1946, in the case of

(*b*) CH(DAC) 5317. Draft B.S. for coated tinfoil for use in the dairying industry.

ELECTION OF NEW FELLOWS.

The following 63 candidates were elected Fellows of the Chemical Society on June 13th, 1946:

Alan Stuart Anderson.
Bernard Lewis Archer.
Charles Thomas Ashton.
Nandor Bernstein.
Arnold Blumann.
John Spiers Bone.
Raymond Bradford Bradstreet.
Eric Arthur Burfoot.
Norman Burrows.
Reginald Charles Clark.
David Walton Clayton.
George Cleaver.
Gerald Hugh Cookson.
Cyril Walter Crane.
William James Dunning.
John Arthur Eggleston.
Edmund Frankel.
*Eric Bertram Fuller.
Sailaja Prasad Ghosh.
Cecil Godfrey.
Cecil Edward Gregory.
Douglas Graham Harvey.
Roy Haynes.
Elliott Garfield Jackson.
Wilfred Thomas Jarrett.
Mukarram Hussain Khundkar.
Donald John Robert Laurence.
Eric London.
Harry Marchanton Lowe.
John Macmillan.
Samuel Colin McNeil.
Henry Martin.
Alfred Mead.
Frank Isaac Morley.
Robert Ian Morrison.
Bhaskara Rama Murti Polapragada Murti.
Johan Ernst Nyrop.
William David Ollis.
John Mervyn Osbond.
Brian Roy West Pinsent.
Reginald Hesketh Prince.
Madhao Bhalchandra Sahasrabudhe.
Thomas George Saunders.
Rudolf Schulof.
Leslie George Dixon Sheldrake.
Mervyn William Herbert Sheppard.
Roy Henry Smith.
Howard Braithwaite Stent.
Harold Jacob Stern.
John Albert Stock.
Cyril Gordon Sumner.
Hana Tausigova.
Peter James Thurman.
Edward George Tomich.
Roland Cesar Voss.
Joseph Walker.
Henry George White.
John Strachan Wilkie.
Herbert James Willavoys.
Donald Charles Williams.
David Scott Wilson.
Anthony Arthur Woodham.
John Wright.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before July 31st, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Bartley, William Barrow, Hons.Nat.Sci. (Oxon.). British. 55, Longcroft Lane, Welwyn Garden City. Chief Engineer, Marconi Instruments Ltd., St. Albans. *Signed by:* R. E. Slade, H. W. Thompson, W. G. Adam.

Barton, Maxwell Craig, Inter.B.Sc. (Lond.). British. 15, Green Lane, Liverpool, 13. Teacher. *Signed by:* R. J. S. Beer, W. B. Whalley, A. McGookin.

***Baxter, Richard Allen,** M.Sc. (Manc.). British. Chemistry Department, Royal Technical College, Glasgow, C. 1. Research Assistant. *Signed by:* F. S. Spring, J. C. Woods, G. T. Newbold.

***Bernstein, Michael,** B.Sc. (Lond.). British. 28, Boundary Road, Eastcote, Pinner. Research Student. *Signed by:* Gwyn Williams, P. C. Crofts, V. Gold.

Bunton, Clifford Allen, B.Sc. and Ph.D. (Lond.). British. The Maisonette, The Red House, Effingham. Assistant Lecturer in Chemistry. *Signed by:* R. I. Reed, S. Sugden, C. K. Ingold.

***Clark, Stanley Bartlett.** British. 30, Grosvenor Street, Bury. Analytical and Research Chemist. *Signed by:* J. A. Beardall, Harry Brindle, A. E. Gillam.

***Davies, Isadore,** B.Sc.Hons. (Lond.). British. S.Q. 36|4, c|o Anglo-Iranian Oil Co., Ltd., Abadan. Assistant Chemist, Abadan Refinery. *Signed by:* C. K. Ingold, H. G. Poole, E. D. Hughes.

***Dickson, George Thomson,** B.Sc. (Glas). British. 43, Earlbank Avenue, Glasgow, W. 4. Research Student. *Signed by:* James Bell, J. W. Cook, James D. Loudon.

***Eisler, Bedrich.** Czechoslovak. Exeter College, Oxford. Student reading Chemistry Honours at Oxford. *Signed by:* Ronald P. Bell, J. H. Wolfenden, E. J. Bowen.

Fowler, Kenneth Edward, A.R.I.C. British. 16, York Avenue, Ashley Down, Bristol, 7. Research Chemist. *Signed by:* Arthur Marsden, Eric J. Holland, Frank H. C. Bull.

***Hanchard, Jeanne Olive,** B.Sc.Hons. (Lond.). British. 27, Aldbourne Avenue, Earley, nr. Reading. Science teacher. *Signed by:* E. E. Turner, Margaret M. Jamison, D. M. Hall.

Hawkins, Edwin George Edward, B.Sc.Hons. and Ph.D. (Bristol), A.R.I.C. British. 8, Pine Avenue, Bebington. Research Chemist. *Signed by:* E. L. Hirst, J. K. N. Jones, W. E. Garner.

Higgons, Dennis John, B.Sc. (Lond.), A.R.I.C., A.R.C.S. British. 46, Mount Ephraim Lane, S.W. 16. Captain, Royal Engineers. Research Chemist in Army Chemical Laboratory. *Signed by:* E. R. H. Jones, L. N. Owen, I. K. M. Robson.

Holleyman, Wilfred Frank. British. Mill Hill Cottage, S.W. 13. Student. *Signed by:* J. Kenyon, J. W. Smith, A. Houston.

Hutcheson, Wilfrid George, M.P.S. British. 66, The Avenue, Southampton. Pharmacist. *Signed by:* H. W. B. Reed, S. H. Harper, M. Elliott.

***Iley, Ralph,** B.Sc.Hons. British. 10, Eustace Avenue, Balkwell, North Shields. Research Student. *Signed by:* T. D. Smith, R. Bell, W. Marshall, M. Michelson.

Johnson, Paley, M.A. and Ph.D.(Cantab.), I.C.I. Fellow of Cambridge University. British. Department of Colloid Science, The University, Cambridge. Research Worker. *Signed by:* E. K. Rideal, G. B. B. M. Sutherland, E. I. McDougall.

Johnston, Thomas Young, B.Sc.Hons. (Glas.). British. 3, Bellevue Road, Rothesay, Bute. Research Chemist. *Signed by:* J. W. Cook, John Robertson, Archibald G. Clement.

Jones, Frederick Arthur, B.Sc. (Lond.), F.R.I.C. British. 12, Water Orton Road, Castle Bromwich. Research Manager. *Signed by:* E. M. Joiner, Garfield Thomas, C. E. Kendall, R. S. Potter.

Jones, Hugh Trefor, M.Sc. (Wales), A.R.I.C. British. 29, Sandhill Oval, Alwoodley, Leeds. Advisory Chemist. *Signed by:* Norman M. Comber, W. N. Townsend, W. A. Wightman.

***Jones, Patrick Gadsden,** B.Sc.Hons. (Bristol). British. Y.M.C.A. Hostel, Colston Street, Bristol. Research Student. *Signed by:* C. E. H. Bawn, T. Malkin, W. Baker.

Lal, Avadh Behari, M.Sc. (Patna). Indian. Chemistry Department, Queen Mary College, Mile End Road, E. 1. Research Student. *Signed by:* J. R. Partington, V. A. Petrow, J. Saper.

Langston, Robert Pembruge, B.Sc.Hons. (Lond.), A.R.I.C. British. 123, Central Avenue, Hounslow. Development Chemist. *Signed by:* J. R. Gray, H. C. Hitchcock, C. Montague Smith.

Lee, Jeffrey, B.Sc.Hons. (Manc.). British. 33, Stanley Street, Nelson. Research Chemist. *Signed by:* G. Norman Burkhardt, A. E. Gillam, Colin Campbell, Fred Fairbrother.

McGrath, Louis Bernard, B.Sc. (Lond.), A.R.I.C. British. 75, Eldon Street, St. Helens. Experimental Assistant, Ministry of Supply. *Signed by:* J. F. Jackson, V. C. E. Burnop, M. J. Thornton.

McIntosh, Angus Fraser, M.P.S. British. Grianan, Perth Road, Scone. Pharmacist with Messrs. Thomas Harley Ltd., 55, South Methuen Street, Perth. *Signed by:* Rupert Woolby Brooke, John C. Smith, R. R. Bennett.

Maclean, Alexander Cockburn, B.Sc.Hons. (Glas.), A.R.T.C. British. 324, Wedderlea Drive, Glasgow, S.W. 2. Research Student at the Royal Technical College, Glasgow. *Signed by:* W. M. Cumming, F. Rumford, I. Vance Hopper.

Macpherson, John Farquharson. British. 56, Lonsdale Road, Oxford, Student of Chemistry at Oxford University. *Signed by:* Ronald P. Bell, H. M. Powell, F. M. Brewer.

***Morris, William,** B.Sc. (Edin.). British. Norwood, Stricken Road, Fraserburgh. Analytical Chemist. *Signed by:* John P. Allchin, A. Davies, P. H. Freestone.

Mugdan, Martin, Ph.D. German. 42, Mount Ararat Road, Richmond. Research Chemist with the Distillers Co., Ltd. *Signed by:* Herbert M. Stanley, J. G. Maltby, G. Minkoff.

Neale, Sidney Maurice, M.Sc. (L'pool), D.Sc. (Manc.). British. College of Technology, Manchester. University Lecturer in Applied Chemistry. *Signed by:* A. F. H. Ward, R. F. Garwood, G. Baddeley.

Norman, Peter James, B.Sc. (Lond.), A.R.C.S., F.R.I.C. British. 23, Chelwood Gardens, Richmond. Research Chemist, Messrs. J. Lyons & Co., Ltd. Cadby Hall, W. 14. *Signed by:* R. W. Money, L. F. Barron, Arthur N. Ainsworth.

Norris, William Henry Hobbs, B.A.Hons. (Cantab.), B.Sc.Hons. (Lond.), F.R.I.C. British. Hurst Lee, Glossop. Chemical Manufacturer and Contractor. *Signed by:* A. E. Gillam, John K. Wood, A. F. H. Ward, T. K. Walker, Norman Blakebrough, T. C. Warrington.

Nunn, John Richard, M.Sc. (Cape Town). British. Chemistry Department, University of Cape Town, Rondebosch, South Africa. Junior Lecturer. *Signed by:* E. Newbery, W. Pugh, W. S. Rapson.

***Ottewill, Ronald Harry,** Inter.B.Sc. (Lond.). British. 39, Crosslands Avenue, Norwood Green, Southall. Student, Queen Mary College. *Signed by:* J. R. Partington, C. M. French, H. D. K. Drew.

***Pender, Iain Allan Burnett,** B.Sc.Hons. (Glas.), A.R.I.C. British. 253, Shrewsbury Road, E. 7. Production Chemist with Glaxo Laboratories Ltd. *Signed by:* E. Lester Smith, Edward W. Pates, James E. Page.

***Philip, Robert,** B.Sc.Hons. and Ph.D.(Glas.). British. 24, Dowanside Road, Glasgow, W. 2. Assistant in Chemistry, The University, Glasgow. *Signed by:* James D. Loudon, James Bell, J. W. Cook.

Rees, Henry George, B.Sc. and Ph.D. (Lond.), A.R.C.S., D.I.C., F.R.I.C. British. 62, The Avenue, Hatch End. Research Biochemist, Oxo Ltd. *Signed by:* G. Spall, Eric C. Wood, L. C. Dutton.

***Riley, Douglas Willie,** B.Sc.Hons. (Lond.). British. 128, Southfield Road, Little Horton, Bradford. Research Student. *Signed by:* G. Skirrow, R. M. Barrer, H. I. Stonehill.

***Roper, Joseph Alan,** B.Sc. (Sheffield). British. 17, Neale Street, Long Eaton, Nottingham. Research Assistant to Medical Research Council. *Signed by:* Brynmor Jones, J. C. Speakman, E. Gertrude Turner, T. B. Smith.

***Sheehan, Sean,** B.E. and B.Sc. (N.U.I.). Irish. 4, Tivoli Gardens, Tivoli, Cork. Assistant Chemical Engineer, Cement Ltd., Drogheda. *Signed by:* Joseph Reilly, John C. Aherne, Michael A. Fielding.

***Shipley, Frederick Walter,** B.Sc.Hons. and Ph.D. (Lond.). British. 199, Hampden Way, Southgate, N. 14. Organic Research Chemist, British Rubber Producers' Research Association. *Signed by:* G. F. Bloomfield, E. H. Farmer, Ralph F. Naylor.

Short, William Stanley, B.Sc.Hons. (Dun.). British. School House, Seaton Burn, Newcastle-on-Tyne. Research Student at King's College, Durham University. *Signed by:* G. R. Clemo, Wesley Cocker, Richard Raper.

Smart, Jack, B.Sc.Hons. (Birm.). British. 84, Brays Road, Sheldon, Birmingham, 26. Research Chemist. *Signed by:* L. L. Bircumshaw, M. Stacey, S. R. Carter.

***Smith, John Alec Sydney.** British. 68, Bobbers Mill Road, Nottingham. Student at Lincoln College, Oxford. *Signed by:* N. V. Sidgwick, L. A. Mounter, F. M. Brewer.

***Stephan, Thea Rodna,** M.Sc. (Sydney). British. 20, Addiscombe Grove, East Croydon. Assistant Lecturer, Imperial College. *Signed by:* C. H. Bamford, M. J. S. Dewar, D. M. Newitt.

Stockdale, David, M.A., Ph.D., and Sc.D. (Cantab.), A.R.I.C. British. 25, Hills Avenue, Cambridge. University Lecturer in Chemistry. *Signed by:* H. J. Emeléus, F. G. Mann, H. McCombie.

Tabutaut, Monique George Louise, B.Sc. (Cape Town). Belgian. Chemistry Department, University of Cape Town, Rondebosch, South Africa. *Signed by:* E. Newbery, W. Pugh, W. S. Rapson.

Taylor, Alfred James, B.Sc.Hons. (Lond.). British. 50, Blyburgate, Beccles. Research Student, University College, Nottingham. *Signed by:* J. Masson Gulland, D. O. Jordan, John C. Roberts.

Thompson, Ronald John. British. 20, Meadowcroft Avenue, Cleveleys, nr. Blackpool. Serving in the Army. *Signed by:* Joseph H. Roberts, R. Leslie Collett, H. J. T. Ellingham.

Tyler, Douglas Leslie, B.Sc. (Lond.). British. 26, Wood Lane, Hucknall, Notts. Assistant Chemist. *Signed by:* F. R. Mumford, R. W. Hale, R. Banks, R. N. Coleman.

Valton, Paul Alexander, B.Sc. (Lond.), A.R.I.C. British. Sandusky, Berkley Road, Frome. Technical Manager of Road Reconstruction (1934) Ltd., also General Manager of their Somerset and Gloucester Group of Quarries. *Signed by:* J. Davidson Pratt, Charles Walker Mobberley, John C. Warr.

Whelehan, John Kevin. Licentiate, Pharmaceutical Society of Ireland. Irish. 38, Earl Street, Mullingar, Ireland. Pharmaceutical Chemist. *Signed by:* George C. Hewson, A. G. G. Leonard, T. S. Wheeler.

Wilson, James Matchett, M.Sc. (Q.U.B.). British. c/o 19, Yarborough Road, Southsea. Lecturer in Chemistry, The Municipal College, Portsmouth. *Signed by:* D. M. Edwards, C. G. Lyon, C. M. Bere.

Yates, Christopher Cavill, A.R.I.C. British. 4, South Hill Mansion, South Hill Park, N.W. 3. Works Chemist. *Signed by:* A. W. E. Downer, S. G. Kendrick, E. de Barry Barnett.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Frank, Hans Richard, B.A. (Swarthmore). American. Department of Chemistry, University of Rochester, Rochester 3, New York. Graduate Fellow. *Signed by:* Leslie G. S. Brooker.

Morrell, Clarence Allison, M.A. (Toronto), Ph.D. (Harvard). Canadian. Food and Drug Laboratories, Department of National Health and Welfare, Ottawa, Ontario. Assistant Chief Dominion Analyst. *Signed by:* A. Linton Davidson.

Steele, Frank John, Ph.G. (Pittsburgh), LL.B. (La Salle). American. Greenwich Hospital, Greenwich, Conn., U.S.A. Chief Pharmacist. *Signed by:* H. B. Vickery.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between May 13th and June 13th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Strychnine and brucine. Part XLVI. The preparation of neostrychnine and neobrucine." By R. N. Chakravarti and Sir Robert Robinson.

"The synthesis of 6-nitroindene." By R. D. Haworth and D. Woodcock.

"Coordinate links formed by bonding electrons: a suggestion regarding the structure of diborane." By A. D. Walsh.

"A new synthesis of oxazoles and iminazoles including its application to the preparation of oxazole. By J. W. Cornforth and (Mrs.) R. H. Cornforth.

"Reduction by dissolving metals. Part IV." By A. J. Birch.

"Stereo-effects and van der Waals complexes." By E. J. Bowen and E. Coates.

"The rearrangement of 2-benzenesulphenamidothiazoles. Part I. Thiazole compounds not substituted in position 4." By E. Hoggarth.

"The rearrangement of 2-benzenesulphenamidothiazoles. Part II. Thiazole compounds substituted in position 4." By E. Hoggarth.

"The place of Yttrium and the application of ferricyanide precipitation in the rare-earth group. The purification of erbium." By J. K. Marsh.

"Synthesis of the monoethyl ethers of kaempferol and constitution of rhamnocitrin." By K. V. Rao and T. R. Seshadri.

"The nitration of some derivatives of eugenol." By G. R. Clemo and J. H. Turnbull.

"The sulphonation of some derivatives of eugenol." By G. R. Clemo and J. H. Turnbull.

"The addition of thio compounds to olefins. Part II. Reactions of thioacetic, monochloro-, dichloro,- and trichloro-thioacetic acids." By J. I. Cunneen.

"Note. Preparation of methylphloroglucinol." By E. A. Coulson and R. G. Powell.

"The crystal and molecular structure of certain dicarboxylic acids. Part I. Oxalic acid dihydrate." By J. D. Dunitz and J. M. Robertson.

"The crystal and molecular structure of certain dicarboxylic acids. Part II. Acetylene dicarboxylic acid dihydrate." By J. D. Dunitz and J. M. Robertson.

"Epimeric alcohols of the *cyclo*hexane series. Part VI. The optically active 3-methyl*cyclo*hexanols." By A. K. Macbeth and J. A. Mills.

"Synthetic antimalarials. Part XII. Some 1 : 3 : 5-triazine derivatives." By F. H. S. Curd, J. K. Landquist, and F. L. Rose.

"Synthetic antimalarials. Part XIII. Some *n*-dialkylaminoalkylamidines." By F. H. S. CURD and C. G. RAISON.

"The synthesis of antimalarial compounds related to niquidine. Part III. Alternative synthesis of dihydro-*x*-niquidine." By T. S. WORK.

"The photochemical dimerisation of acenaphthylene." By E. J. BOWEN and J. D. F. MARCH.

"The replacement of the diazonium by the nitro-group. Part II. Some modifications of procedure, and extension of the method to nitronaphthylamines, benzidine, and 3 : 3′-dichlorobenzidine." By H. H. HODGSON and E. R. WARD.

"Investigations on the influence of chemical constitution upon toxicity. Part I. Compounds related to 'Doryl'." By R. D. HAWORTH, A. H. LAMBERTON, and D. WOODCOCK.

"Investigations on the influence of chemical constitution upon toxicity. Part II. Compounds related to 'Prostigmine'." By R. D. HAWORTH, A. H. LAMBERTON, and D. WOODCOCK.

"Investigations on the influence of chemical constitution upon toxicity. Part III. Compounds related to 'Miotine'." By R. E. DAVIES, R. D. HAWORTH, B. JONES, and A. H. LAMBERTON.

"An interpretation of the Sandmeyer reaction. Part IX. The behaviour of diazotised 2 : 4 : 6-trichloro- and 2 : 4 : 6-tribromo-aniline towards the Sandmeyer reagent, and the preparation of 1 : 3 : 5-trichloro- and 1 : 3 : 5-tribromo-benzene." By H. H. HODGSON and A. P. MAHADEVAN.

"The constitution of yeast ribonucleic acid. Part XI. Synthesis of uridine-2-phosphate." By J. M. GULLAND and H. SMITH.

"Phenylpropiolic acids. Part I. The dimerisation of *o*-methoxyphenylpropiolic acid." By F. G. BADDAR.

"Synthetic mydriatics. α-Chlorodiphenylacetyl chloride as a reagent for the preparation of benzilic esters of tertiary amino-alcohols." By F. E. KING and D. HOLMES.

"The structure of molecular compounds. Part III. Crystal structure of addition complexes of quinol with certain volatile compounds." By D. E. PALIN and H. M. POWELL.

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PROCEEDINGS
OF THE
CHEMICAL SOCIETY

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OFFICIAL ANNOUNCEMENTS

Minutes of an

EXTRAORDINARY GENERAL MEETING

held in Burlington House, Piccadilly, W. 1, on Thursday, July 25th, 1946, at 3 p.m.

The PRESIDENT, Professor C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

FORMAL ADMISSION OF FELLOWS.

Professor Endre Berner was admitted a Fellow of the Society.

ANNUAL SUBSCRIPTION.

The PRESIDENT called upon the Honorary Secretary to read the following notice convening the meeting:

EXTRAORDINARY GENERAL MEETING.

Notice is hereby given that an Extraordinary General Meeting of the Chemical Society will be held in the Society's Rooms, Burlington House, London, W. 1, on Thursday, July 25th, 1946, at 3 p.m., to confirm under Bye-Law 8, the following proposal of Council:

"That as from January 1st, 1947, the amount of the Annual Subscription be increased from three pounds (£3) to three pounds ten shillings (£3 10s.) and that a corresponding increase be made in the amount of the life composition fee."

By order of the Council,
C. N. HINSHELWOOD,
President.

July 1st, 1946.

The TREASURER then made a statement regarding the financial position of the Society and proposed that the annual subscription be increased from £3 to £3 10s. and that a corresponding increase be made in the amount of the life composition fee. Dr. C. W. Shoppee seconded the proposal and a vote was taken.

The PRESIDENT declared the proposal carried and the meeting closed.

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Joshua Arthur Hughes (Abercarn)	June 18th, 1896.	June 24th, 1945.
Archibald Carswell Melville (Ontario)	May 20th, 1943.	May 10th, 1946.
Ferdinand Roques (Paris)	Feb. 21th, 1918.	Jan. 1945.
Antonin Simek (Czechoslovakia)	June 16th, 1921.	1942.
Robert de Jersey Fleming Struthers (Oxford)	May 5th, 1904.	July 18th, 1944.
Barry Arthur Mauger Windsor (Worthing) (Killed on active service)	Dec. 3rd, 1936.	Oct. 1941.

CONGRATULATIONS.

The congratulations of the Council have been conveyed by the President to the following Fellows whose names appear in the Birthday Honours List (Second Part):

O.B.E.
Edward Christopher Baughan.
Aquila Forster.
William Harold Juggins Vernon.

ACKNOWLEDGMENT.

The thanks of the Council have been conveyed to Dr. David Hooper for gifts of the Society's publications.

VINGTIÉME CONGRÈS DE CHIMIE INDUSTRIELLE DE LA SOCIÉTÉ DE CHIMIE INDUSTRIELLE.

Major F. A. Freeth, F.R.S., has accepted the Council's invitation to be the Society's Representative at the above Congress.

INTERNATIONAL UNION OF CHEMISTRY.

Committee for the Reform of the Nomenclature of Organic Chemistry.

Professor C. S. Gibson, F.R.S., has accepted the Council's invitation to represent the Society on the above Committee.

ELECTION OF NEW FELLOWS.

The following 66 candidates were elected Fellows of the Chemical Society on July 9th, 1946:

John Gerrard Anderson.
Moise Haim Avramoff.
Harold Cecil Bailey.
Betty Doreen Bending.
Madhav Balaji Bhagvat.
Alfred Arnold Boucher.
Basil Butterworth.
Colin Campbell.
Alexander William Cherry.
David Lionel Cohen.
Frank William Cornish.
Ralph Hugh Alfred Crawley.
Frank Cutshaw Croxtan.
Fernando Orozco Diaz.
Michael Isidore Dunn.
Basil Edward Evans.
Roderick Falconer.
Alan Charles Farthing.
James Sneddon Forsyth.
Nehemiah Francis.
Gordon Douglas Gemmell.
Geoffrey Alan Gilbert.
Siegfried Gottfried.
Alan Grieve.
John Frederick Grove.
Jesse Grundy.
Edward Richard Herz.
Arthur Clement Hetherington.
William Samuel Hodges.
Alfred Harold Howland.
Eric Millman Hunt.
Alistair Frederick McKenzie Jackson.
Anthony Trafford James.
John Ker Johannesson.
Herbert Edwin Jones.
David Harry Kohn.
Archibald Ernest Lain.
Wilbur Arthur Lazier.
Christina Thomson Lewin.
Philip Arthur Lincoln.
Alan Mackinnon.
Clive William Coker Marler.
Daniel Donald Moir.
Ernest Devereux Morris.
Reino Olavi Nasanen.
Bert Charles Newbury.
Guy Geoffrey Frederick Newton.
Peter Frederick Onyon.
Edward Keith Pierpoint.
Richard Gilbert Poppy.
Mrs. Emily Jean Raynor.
John Alexander Ross.
Richard Penn Royer.
John Trethowan Rundell.
Pallassena Krishna Seshan.
Clifford George Silcocks.
Thomas Hardy Simpson.
Raymond Philippe Alexandre Sneeden.
Walter Edward Stein.
William Henry Stevens.
Michael Patrick Stock-Dunne.
Eric Greve Strom.
Philip Beckitt Turner.
George Arthur Watson.
Frank Wesley.
William Frank Williams.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before August 31st, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Adams, Harold, A.R.I.C. British. Rolleston, 71, Moor Lane, Wilmslow. Research Chemist. *Signed by:* Chas. B. Featherstone, R. Leslie Collett, H. J. T. Ellingham.

Azzam, Ahmed Mohamed, B.Sc.Hons. (Cairo). Egyptian. 157, Queen's Drive, Finsbury Park, N. 4. Student at the Royal College of Science. *Signed by:* J. F. Herringshaw, Ernest A. Braude, J. O'Mara-Bockris.

Bellamy, Harold, M.P.S. British. 405, Main Road, Sheffield, 9. British. Manager of Pharmacies. *Signed by:* J. B. Stocks, M. Taylor, S. Burnley.

Cameron, Archie Hector, B.Sc. (Glas.), A.R.T.C., F.R.I.C. British. 24, Bryans Close Road, Calne. Chemist. *Signed by:* Osman Jones, L. E. Campbell, C. L. Hinton.

Chaventre, Cyril. British. 28, Northwick Circle, Kenton, Harrow. Production Director and Works Manager of Evan Williams Company, Ltd., Aintree Road, Perivale, Middlesex. *Signed by:* M. Briscoe, W. M. Seaber, R. A. Rabnott.

Cordes, Albert, M.P.S. British. 62, Overhill Drive, Withdean, Brighton, 6. Production Manager with the Anglo-American Pharmaceutical Co., Ltd., Croydon. *Signed by:* A. E. Corker, A. J. Kelly, H. C. Bailey, Arthur Mortimer.

Corner, Mary, B.Sc.Hons. (Lond.), F.R.I.C. British. British Leather Manufacturers Research Association, c/o Royal Institute of Chemistry, 30, Russell Square, W.C. 1. Chemist. *Signed by:* R. G. Wallis, M. P. Balfe, R. Leslie Collett.

Cranstoun, Hamish MacLaren, B.Sc. (Glas.). British. c/o Hammond, 66, Alma Avenue, Hornchurch. Chemist with May and Baker, Ltd., Dagenham. *Signed by:* Kenneth R. Rees, C. R. J. Ruthven, Hamish B. Cameron.

Davies, Goronwy, B.Sc.Hons. (Wales). British. Sentosa, Mount Ambrose, Redruth. Deputy Manager, Imperial Chemical Industries, Ltd., Explosives Division. *Signed by:* J. Weir, J. W. Tait, C. R. N. Strouts.

Edwards, Donald, B.Sc.Hons. (Lond.), A.R.I.C. British. 43, Argyll Street, Kettering. Technical College Chemistry Master. *Signed by :* D. O. Jordan, H. H. Barber, John C. Roberts.

***Fordham, William Douglas,** British. Cliffdale, Undercliff Gardens, Leigh-on-Sea. Production Control Chemist. *Signed by :* R. L. Blackmore, F. J. Green, Ralph E. Bowman.

Gibb, William, B.Sc.Hons. (Glas.), A.R.T.C., A.R.I.C. British. 48 Vardar Avenue, Clarkston. Research Student at the Royal Technical College, Glasgow. *Signed by :* Henry G. A. Anderson, W. M. Cumming, F. Rumford.

Godier, Alec Leonard, B.Sc. (Lond.), A.R.I.C. British. 9, Warner Road, Hornsey, N. 8. Chemist. *Signed by :* A. J. Cross, E. J. Chappel, K. J. Verrill.

Gray, Peter Edward, B.Sc. (Lond.), A.R.I.C. British. c/o Research Laboratory, Messrs. Tate & Lyle, Ltd., Plaistow Wharf, E. 16. Research Chemist. *Signed by :* Denis R. Dickinson, J. Barrett, Lawrence S. Bull.

Gregory, Raeburn Arthur, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 19, Shakespeare Road, Widnes. Chemical Plant Manager. *Signed by :* B. Raistrick, Geo. King, J. G. Clarke.

***Grieve, Alan,** Inter.B.Sc. (Lond.). British. 20, Norbury Avenue, Thornton Heath. Student at University College, Cardiff. *Signed by :* Ian H. Slicer, N. M. Cullinane, S. J. Chard.

Heald, John, B.Sc.Hons. (Leeds). British. 2, Easton Drive, Cheadle. Works Chemist. *Signed by :* J. Plant, C. G. Childs, D. S. Stephens.

Hodge, Donald Gordon, B.Sc. (Lond.). British. 10, Eastella Drive, Anlaby Road, Hull. Assistant Works Chemist. *Signed by :* W. Elisabeth Adams, R. L. Wickens, Sydney H. Long.

John, George, M.P.S. British. 8, MacDonald Road, Friern Barnet, N. 11. Chief Pharmacist to Bayer Products Ltd., Africa House, Kingsway, W.C. 2. *Signed by :* H. Robinson, D. C. Garratt, N. R. Jones.

Kemp, Peter Hayden, Inter.B.Sc. (Lond.). British. 12, Bethune Avenue, N. 11. Assistant Experimental Officer at the Building Research Station (D.S.I.R.), Garston, Watford. *Signed by :* F. M. Lea, H. Dorner, M. J. Eichner.

Lisowicz, Simon, I.C.R. (Rouen). Polish. British Oxygen Co., Ltd., Research and Development Department, Morden Factory Estate, S.W. 19. Technical Abstractor. *Signed by :* I. Greenfield, Bernard Bann, Norman E. Williams.

Lonsdale, Kathleen, D.Sc. (Lond.), F.R.S. British. 121 Station Road, West Drayton. Research Worker, X-Ray Crystallography at the Royal Institution, Albemarle Street, W. 1. *Signed by :* Robert Robertson, Henry H. Dale, C. K. Ingold.

Marshall, William Clark, B.Sc.Hons. (Lond.). British. 20, The Avenue, St. Margarets. Intelligence Officer and Librarian, The British Oxygen Co., Ltd., Research and Development Department. *Signed by :* J. W. Coates, I. Greenfield, Bernard Bann.

***Mills, Colin Frederick,** B.Sc.Hons. (Reading). English. The Knapps, Ridgeway, Long Ashton, Bristol. Assistant Biochemist, Plant Nutrition Research, University of Bristol, Agricultural and Horticultural Research Station, Long Ashton. *Signed by :* L. F. Burroughs, D. Woodcock, H. Martin.

***Morris, Arthur Leslie,** B.Sc.Hons. (Lond.). British. Clive, Bucknalls Lane, Garston, Watford. Research Chemist, British Rubber Producers Research Association. *Signed by :* H. P. Koch, Geoffrey Gee, L. Bateman.

Neate, Percy John. British. 49, Frognal, N.W. 3. *Signed by :* E. L. Kennaway, G. A. R. Kon, C. W. Shoppee.

***Neville, Hugh Henry,** M.A. and B.Sc. (Aberd.). British. 29, Court Way, Twickenham. Student. *Signed by :* H. W. Melville, T. H. Reade, J. M. C. Thompson.

Peppiatt, Edward George, B.Sc.Hons. (Lond.), A.R.C.S., A.R.I.C. British. 10, Bridgefield Avenue, Wilmslow. Chemist. *Signed by :* J. A. Beardall, P. R. Carter, E. Booth.

Piper, Harold. British. 30, Scott Lane West, Riddlesden, Keighley. Laboratory Manager, Keighley Laboratories, Ltd. *Signed by :* J. Rushworth, L. M. Stockdale, G. Skirrow.

***Powell, Richard Graham,** B.A. (Oxon.). British. 3, Dryburgh Road, Putney, S.W. 15. Junior Scientific Officer, Chemical Research Laboratory, Teddington. *Signed by :* E. A. Coulson, R. P. Linstead, Stanley L. Thomas.

Rees, Henry George, B.Sc. and Ph.D. (Lond.), A.R.C.S., D.I.C., F.R.I.C. British. Oxo Laboratories, 16, Southwark Bridge Road, S.E. 1. Research Biochemist. *Signed by :* D. W. Kent-Jones, Eric C. Wood, L. C. Dutton, A. J. Amos.

***Rose, George Alan,** B.A. (Oxon.). British. 52, Uphill Road, Mill Hill, N.W. 7. Assistant Chemist on Medical Unit, University College Hospital. *Signed by :* C. E. Dent, Paul A. Barrett, Alexander Lawson.

Singh, Nazar, B.Sc.Hons. and M.Sc.Tech. (Punjab). Indian. 92, Brocco Bank, Sheffield, 11. Research Student, Chemistry Department, The University, Sheffield, 10. *Signed by :* Brynmor Jones, R. D. Haworth, E. Gertrude Turner.

Stross, Vilem, M.D. (Prague). Czechoslovakian. 59, Buckingham Street, Aylesbury. Research Chemist, International Alloys, Ltd., Aylesbury. *Signed by :* G. H. Osborn, R. C. Chirnside, W. Cule Davies.

***Walker, James Andrew Jamieson.** English. 5, Carlton Bank, Harpenden. Army Officer, Corps of Royal Engineers. *Signed by :* Frederick Challenger, J. W. Baker, F. R. Goss.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Biswas, Indubhushan, M.Sc. (Calcutta). Indian. T. N. J. College, Bhagalpore. Head of the Department of Chemistry. *Signed by :* P. B. Ganguly, R. C. Ray.

Broadbent, David Stanley, B.Sc. and Ph.D. (Lond.), D.I.C., A.M.I.Chem.E. British. 24, The Common, Ealing, W. 5. Works Manager, West African Soap Co., Apapa, Nigeria. *Signed by :* William V. Mitchell.

Doering, William von Eggers, B.S. and Ph.D. (Harvard). American. 652 Chandler Laboratory, Columbia University, New York City, 27. Assistant Professor of Organic Chemistry. *Signed by :* Louis P. Hamment.

Ganapathi, K., B.A. and D.Sc. (Madras). British. Department of Chemotherapy, Haffkine Institute, Parel, Bombay. Assistant Director, Haffkine Institute, Bombay. *Signed by :* K. Venkataraman, J. C. Ghosh.

Godet, Claude, Ing.Chim. (Zurich). Swiss. Spiez, O.B., Switzerland. Employed in the Technical Military Service Laboratories de Wimmis. *Signed by :* H. E. Fierz-David.

Østrup, Gregers Lejf. Danish. Organic Chemistry Laboratory, The Royal Technical College, Sølvgade 83, København K. Assistant in the Organic Chemistry Laboratory. *Signed by :* H. Baggesgaard Rasmussen.

Rao, S. Balakrishna, M.Ph. (Benares). Indian. Navaratna Pharmaceutical Laboratories, P.B. 13, Mattancherri P.O., Cochin. Partner and Chemist, Navaratna Pharmaceutical Laboratories. *Signed by :* M. R. Natarajan.

Serdaroğlu, Nami, Dr.Ing. (Dresden), Dip. Chem. (Istanbul). Turkish. Teknik Universitesi, Istanbul. Director of Chemical Laboratory and Professor of Chemistry. *Signed by :* L. L. Bircumshaw, Stanley Peat.

Schmidt, Willi Georg, Dr.techn. and Chem.Ing. (Zurich), D.I.C. Swiss. Visp, Switzerland. Head of a research section in chemical industry, " Lonza " works. *Signed by :* D. M. Newitt.

Spencer, Edward Peter, Inter.B.Sc. (Lond.). British. Carlton House, 495 Wilbraham Road, Chorlton-cum-Hardy, Manchester, 21. At present with H.M. Forces. *Signed by :* P. Alexander.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between June 13th and July 10th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

" Reactions of cellulose. Part I." By J. HONEYMAN.

" Respiratory stimulants. Part I. Fully substituted ureas derived from αω-alkylenediamines." By W. R. BOON.

" Amidines. Part III. Preparation of substituted amidines from ammonium or substituted ammonium salts and *N*-acylbenzenesulphonalkylamides or acylbenzenesulphonanilides." By P. OXLEY and W. F. SHORT.

" The cyclic methyleneimines. Mechanism of the production of certain aldehydes." By J. GRAYMORE.

" Cinnolines. Part IX. The preparation of some 6 : 7- and 7 : 8-disubstituted-4-hydroxycinnolines." By J. R. KENEFORD and J. C. E. SIMPSON.

" Cinnolines. Part X. The preparation of 4-chloro-2-aminoacetophenone and related 4-hydroxycinnolines." By C. M. ATKINSON and J. C. E. SIMPSON.

" Cinnolines. Part XI. 8-Nitro-4-hydroxycinnoline." By J. C. E. SIMPSON.

" Preparation and properties of some long-chain aliphatic amines." By E. T. BORROWS, B. M. C. HARGREAVES, J. E. PAGE, J. C. L. RESUGGAN, and F. A. ROBINSON.

" Preparation of iodinated mono- and di-phenyl-acetic and -propionic acids." By J. W. BARNETT, F. A. ROBINSON, and B. M. WILSON.

" The conversion of sucrose into pyridazine derivatives. Part I. 3-Sulphanilamido-6-methylpyridazine." By W. G. OVEREND and L. F. WIGGINS.

" The conversion of sucrose into furan compounds. Part III. Some furan amidines." By F. H. NEWTH and L. F. WIGGINS.

" The thermal decomposition of mustard gas." By A. H. WILLIAMS.

" Acridine syntheses and reactions. Part III. Synthesis of aminoacridines from formic acid and amines." By A. ALBERT.

" Note. Improved preparation of 4 : 4′-diaminobenzil and 2 : 2′-dihydroxybenzil." By H. L. GEE and J. HARLEY-MASON.

" Experiments on the synthesis of purine nucleosides. Part XVI. 9-β-*d*-Mannopyranosidoadenine. A proof of the location of the sugar residue in adenosine." By B. LYTHGOE, H. SMITH, and A. R. TODD.

" Experiments on the synthesis of purine nucleosides. Part XVII. The preparation of 4-glycofuranosidaminopyrimidines and a synthesis of 9-*l*-arabofuranosido-2-methylthioadenine." By G. W. KENNER, B. LYTHGOE, and A. R. TODD.

" A new synthesis of benzopyrylium salts." By A. W. JOHNSON and R. R. MELHUISH.

" The nitration of 1 : 5-dihydroxy- and 1 : 5-diacetoxy-naphthalene, 5-methoxy-1-acetoxynaphthalene, 5-methoxy-1-naphthol, and 1 : 5-dimethoxynaphthalene." By R. H. THOMSON, E. RACE, and F. M. ROWE.

" The absorption spectra of organic compounds containing nitrogen. Part I. Derivatives of hydantoin." By R. E. STUCKEY.

" A general method for the preparation of solid aryl diazonium sulphates and conditions for the diazotisation of α-naphthylamine, *m*-toluidine, and *m*-anisidine by nitrosyl sulphuric acid." By H. H. HODGSON and A. P. MAHADEVAN.

" Amidines. Part IV. Preparation of amidines from cyanides and ammonium thiocyanate or substituted ammonium thiocyanates." By M. W. PARTRIDGE and W. F. SHORT.

" Syntheses in the morphine series. Part I. Derivatives of bicyclo[1 : 3 : 3]-aza-2-nonane." By J. A. BARLTROP.

" Amidines. Part V. Preparation of amidines from cyanides and substituted aminomagnesium halides." By R. P. HULLIN, J. MILLER, and W. F. SHORT.

"The crystal structure of pyrene. A quantitative *X*-ray investigation." By J. M. ROBERTSON and J. G. WHITE.

"The aliphatic thiols and their derivatives. Part I. Aliphatic thiol-amines." By J. HARLEY-MASON.

"Studies in the thiazole series. Part I. The reaction between thiourea and *s*-dichloroacetone." By J. HARLEY-MASON.

"Some reactions and derivatives of the 6- and 7-nitro-2-naphthylamines. Part I. Bromination, halogeno-derivatives, and the preparation of the new 7-nitro-2-naphthol." By H. H. HODGSON and E. R. WARD.

"Thiosulphate complexes of the trivalent metals, iron, aluminium, and chromium." By N. URI.

"The ferric thiocyanate complex in ethyl alcoholic solution." By N. URI.

"The isolation of indene from heavy naphthas." By R. D. HAWORTH, C. LINDLEY, and D. WOODCOCK.

"Pyrazine derivatives. Part I. 2-Hydroxy-3 : 6-dimethylpyrazine." By R. A. BAXTER, G. T. NEWBOLD, and F. S. SPRING.

"Pyrazine derivatives. Part II. A synthesis of a racemic 2-hydroxy-3 : 6-di-*sec.*-butylpyrazine and its relationship to deoxyaspergillic acid." By G. T. NEWBOLD and F. S. SPRING.

"Application of the Hofmann reaction to the synthesis of heterocyclic compounds. Part IV. The synthesis of 9-*d*-xylopyranosidoxanthine." By R. A. BAXTER and F. S. SPRING.

"A note on the chlorination of 2-aminothiazole with sulphuryl chloride." By E. PEDLEY.

"The re-distribution and desorption of adsorbed gases." By R. F. BARROW, C. J. DANBY, J. G. DAVOUD, C. N. HINSHELWOOD, and L. A. K. STAVELEY.

"The structures of Hantzsch's isomeric diazocyanides." By D. ANDERSON, R. J. W. LE FÈVRE, and J. SAVAGE.

"The interchange of heat between a gas stream and solid granules." By J. R. ARTHUR and J. W. LINNETT.

"A relationship between viscosity, vapour pressure, and cohesive energy of a liquid." By L. H. THOMAS.

"A relation between fluidity and chemical constitution." By L. H. THOMAS.

"Studies on biological methylation. Part X. The fission of the mono- and di-sulphide links by moulds." By F. CHALLENGER and P. T. CHARLTON.

"The action of heat on diphenylchloroarsine." By G. D. PARKES, R. J. CLARKE, and B. H. THEWLIS.

LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

Aberdeen.	J. M. C. Thompson, M.A., D.Phil., A.R.I.C., Chemistry Department, Marischal College, The University, Aberdeen.
Australia.	T. Iredale, D.Sc., F.R.I.C., The University, Sydney, Australia.
Birmingham.	L. L. Bircumshaw, M.A., D.Sc., Department of Chemistry, The University, Edgbaston, Birmingham, 15.
Bristol.	C. E. H. Bawn, Ph.D., Chemistry Department, The University, Woodland Road, Bristol.
Cambridge.	B. Lythgoe, Ph.D., Organic Chemistry Department, The University, Cambridge.
Canada.	Professor W. D. McFarlane, M.A., Ph.D., Macdonald College, St. Anne de Bellevue, Quebec, Canada.
Edinburgh.	E. G. V. Percival, D.Sc., Ph.D., F.R.I.C., Chemistry Department, King's Buildings, West Mains Road, Edinburgh.
Eire.	Professor T. S. Wheeler, D.Sc., Ph.D., F.R.I.C., Chemical Department, University College, Upper Merrion Street, Dublin.
Exeter.	S. J. Gregg, Ph.D., A.R.C.S., A.R.I.C., Department of Chemistry, Washington Singer Laboratories, Prince of Wales' Road, Exeter.
Glasgow.	J. D. Loudon, Ph.D., Chemistry Department, The University, Glasgow, W. 2.
India.	Sir Shanti S. Bhatnagar, O.B.E., D.Sc., F.R.S., The University, Lahore, Punjab, India.
Leeds.	F. R. Goss, D.Sc., Ph.D., F.R.I.C., The University, Leeds, 2.
Liverpool.	W. B. Whalley, B.Sc., Ph.D., Organic Chemistry Department, The University, Liverpool.
,,	L. A. Haddock, M.Sc., F.R.I.C., I.C.I. Ltd., (General Chemicals Division), Research Department, Widnes Laboratory, Widnes.
Manchester.	A. E. Gillam, D.Sc., F.R.I.C., Chemistry Department, The University, Manchester.
,,	J. C. Withers, Ph.D., A.R.I.C., Shirley Institute, Didsbury, Manchester.
Newcastle and Durham.	W. Cocker, Ph.D., M.Sc., Chemistry Department, Kings College, Newcastle-on-Tyne.
New Zealand.	Professor F. G. Soper, D.Sc., Ph.D., F.R.I.C., University of Otago, Dunedin, New Zealand.
Northern Ireland.	H. Graham, D.Sc., A.R.I.C., 26, Malone Hill Park, Belfast.
North Wales.	W. Rogie Angus, M.A., D.Sc., Ph.D., F.R.I.C., Department of Chemistry, University College of North Wales, Bangor.
Nottingham.	D. O. Jordan, Ph.D., M.Sc., A.R.I.C., University College, University Park, Nottingham.
Oxford.	R. P. Bell, M.A., B.Sc., F.R.S., Balliol College, Oxford.
St. Andrews and Dundee.	J. D. M. Ross, M.B.E., M.A., D.Sc., Chemistry Department, University College, Dundee.
Sheffield.	Brynmor Jones, B.Sc., Ph.D., Chemistry Department, The University, Sheffield, 10.
South Africa.	Professor W. Pugh, Ph.D., B.Sc., F.R.I.C., Chemistry Department, University of Cape Town, Rondebosch, S. Africa.
Southampton.	S. H. Harper, B.Sc., D.Sc., Ph.D., A.R.C.S., D.I.C., University College, Southampton.
South Wales.	Professor J. E. Coates, O.B.E., D.Sc., F.R.I.C., University College, Singleton Park, Swansea.

TECHNOLOGY DEPT.

THE CHEMICAL SOCIETY

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NOTICE OF FORTHCOMING SCIENTIFIC MEETINGS

LONDON (Burlington House).

Thursday, October 3rd, 1946, at 7.30 p.m.

The following papers will be read and discussed :

"The crystal structure of pyrene. A quantitative *X*-ray investigation." By J. M. Robertson * and J. G. White.*

"The redistribution and desorption of adsorbed gases." By R. F. Barrow, C. J. Danby, J. E. Davoud, C. N. Hinshelwood,* and L. A. K. Staveley.

Thursday, October 17th, 1946, at 7.30 p.m.

The following papers will be read and discussed :

"Pyrazine derivatives." By R. A. Baxter, G. T. Newbold, and F. S. Spring.*

"Researches on acetylenic compounds. Acetylenic hydroxy-acids and their reactions." By L. J. Haynes, E. R. H. Jones,* and M. C. Whiting.

Monday, October 21st, 1946, at 6 p.m.

Lecture, **A New Notation for Organic Chemistry,** by Dr. G. Malcolm Dyson, B.A., F.R.I.C.

Joint Meeting with the Royal Institute of Chemistry, the Society of Chemical Industry, and the Bureau of Abstracts to be held at the **London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1.**

In this lecture Dr. Dyson will expound the principles of his ciphering system which enables the structure and structural relations of organic substances to be represented in a very concise and informative manner.

The new method of notation enables the structural formula (or ideograph) to be reduced to a linear form which has the following properties :—

1. It is unique for a given structure (*i.e.*, one structure cannot have two alternative ciphers).
2. It determines the enumeration with certainty.
3. It is capable of reduction to a punched card form, which can be manipulated mechanically.

As the new notation is independent of language, it has possibilities in the establishment of international indexes, and can be used for the compilation of summaries of information, such as Tables of Physical Properties.

This system has aroused considerable interest among chemists with whom it has been discussed, and Dr. Dyson's exposition of this important development in chemical notation should have a wide appeal to chemists in general, and not only to those who specialise on the organic side.

OUTSIDE LONDON.

ABERDEEN.

Friday, October 25th, 1946.

Lecture, **Microscopy with Electrons and *X*-Rays,** by Professor G. D. Preston, M.A., Sc.D., F.Inst.P.

Joint Meeting with the Local Section of the Royal Institute of Chemistry to be held at Marischal College.

EDINBURGH.

Thursday, October 10th, 1946, at 7.30 p.m.

Lecture by Dr. J. P. Baxter, B.Sc., A.M.I.Chem.E.

Joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the North British Station Hotel.

Tuesday, October 29th, 1946, at 7 p.m.

Lecture, **Some Observations on Biological Oxidation and Reduction,** by Dr. D. J. Bell, M.A., F.R.I.C.

Joint meeting with the Edinburgh University Chemical Society and the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the Biochemistry Lecture Theatre of the University, Teviot Place.

* To read paper.

GLASGOW.

Friday, October 25th, 1946, at 3.45 *p.m.*

Lecture, **Evidence Concerning the Mode of Action of Vitamins,** by Professor R. A. Morton, D.Sc., Ph.D., F.R.I.C.

Joint meeting with the Alchemists' Club and the Andersonian Chemical Society to be held in the Royal Technical College.

MANCHESTER.

Thursday, October 24 h, 1946, *at* 7.30 *p.m.*

Lecture, **The Chemistry of Penicillin**, by Professor Wilson Baker, M.A., D.Sc., F.R.S.

Joint meeting with the Manchester University Chemical Society and the Local Section of the Royal Institute of Chemistry to be held in the Chemistry Department of the University.

NEWCASTLE AND DURHAM.

Friday, October 11th, 1946, *at* 5 *p.m.*

Meeting for the reading of original papers.

To be held in the Chemistry Lecture Theatre of King's College, Newcastle-upon-Tyne.

SHEFFIELD.

Thursday, October 17th, at 2.30 *and* 6 *p.m.*

Two Lectures, **The Principles and Applications of Polarography**, by Professor Jaroslav Heyrovsky, D.Sc., Ph.D.

Joint meetings with the South Yorkshire Section of the Royal Institute of Chemistry, the Sheffield Metallurgical Association, and the University Chemical Society, to be held in the General Lecture Theatre, The University, Western Bank.

Thursday, October 24th, 1946, *at* 5.30 *p.m.*

Lecture, **A Synthetic Approach to the Nucleotides,** by Professor A. R. Todd, D.Sc., F.R.S.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

SOUTHAMPTON.

Thursday, October 17th, 1946, *at* 7 *p.m.*

Lecture, **Chemical Aspects of Work on Atomic Fission**, by Dr. H. J. Emeléus, F.R.S.

Joint Meeting with the Portsmouth and District Chemical Society to be held at the Municipal College, Portsmouth.

SOUTH WALES.

Friday, November 1st, 1946, *at* 6 *p.m.*

Lecture, **Homolytic Reactions,** by Professor D. H. Hey, D.Sc., Ph.D., F.R.I.C.

Joint Meeting with the University College of Swansea Chemical Society to be held at University College, Swansea.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS

TELEPHONE NUMBERS.

Fellows are reminded that the telephone numbers of the offices and library of the Society have now been changed to Regent 1675/6.

RESEARCH FUND.

A meeting of the Research Fund Committee will be held in November next. All persons, therefore, who have received grants, and whose accounts have not been declared closed by the Council, are informed that reports must be received by the Society not later than November 1st, 1946.

Applications for Grants, to be made on forms obtainable from the General Secretary, must be received on or before November 1st, 1946. Applications from Fellows will receive prior consideration.

Attention is drawn to the fact that the income arising from the Donation of the Worshipful Company of Goldsmiths is principally devoted to the encouragement of research in Inorganic and Metallurgical Chemistry, and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and Allied Industries.

CENTENARY EXHIBITION.

The Exhibition Committee under the Chairmanship of Sir Robert Robertson, K.B.E., F.R.S. is now engaged in planning the exhibition which is to be held in the Science Museum during the period of the Centenary Celebrations and the Eleventh International Congress of Pure and Applied Chemistry. The Committee is anxious to learn the whereabouts of any specimens or historical apparatus, illustrative of the achievements of chemists working in this country since 1841 which might be made available on loan. Any such information, or offers of assistance, should be sent to the Secretary, Joint Exhibition Committee, c/o the Chemical Society, Burlington House, W. 1.

BRITISH STANDARDS.

The following draft revisions have been received for technical comment :—

CH(FCC)5977. Draft Revision of B.S. 580 for Trichlorethylene (Technical) Trichlorethylene (Stabilised).

CH(FCC)5978. Draft Revision of B.S. 662—Carbon disulphide.

CH(FCC)5981. Draft Revised B.S.S. for Diacetone Alcohol.

These have been placed in the Library and Fellows wishing to make technical comment are requested to do so before November 4th, 1946, to the British Standards Institution, 28, Victoria Street, Westminster, S.W.1.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before September 30th, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

***Alberman, Kenneth Bernard.** British. 12, Downage, Hendon, N.W. 4. Student reading for Part II Chemistry Natural Sciences Tripos. *Signed by :* Alex. R. Todd, N. B. Chapman, R. Hull.

Barby, Donald, B.A. (Oxon). British. The Cottage, Thurlby, Bourne. Instructor-Lieutenant (R.N.). *Signed by :* D. LL. Hammick, S. F. Mason, H. M. Powell.

***Beeby, Mervyn Henry.** British. 23, Orange Street, South Wigston, Leicester. Student at Cambridge University. *Signed by :* N. B. Chapman, Alex. R. Todd, J. B. Whitworth.

Cann, Freshfield Leonard, B.Sc.Hons. (Lond.). British. 18, Waterer Rise, Wallington. Chief Chemist, Messrs. Ionlite Ltd., 89, Scrubs Lane, N.W. 10. *Signed by :* D. J. Saxby, F. G. Tryhorn, J. R. Partington.

***Clark, Nigel George,** B.A.Hons. (Oxon). British. 40, Leamington Street, Heaton, Bradford. Research Student. *Signed by :* Ronald P. Bell, D. G. Felton, H. M. Muir.

***Cosgrove, Dennis John,** B.Sc.Hons. (Lond.), A.R.I.C. British. 22, Highland Avenue, Hanwell, W. 7. Assistant Chemist, Plant and Animal Products Laboratories, Imperial Institute. *Signed by :* R. W. Pearman, W. H. Bennett, Norman S. Corney.

Doherty, James McEleney, A.R.I.C. British. c/o The Burmah Oil Co. (India Trading), Ltd., Victoria House, Chowringhee, Calcutta. Refinery Chemist with Burmah Oil Co. *Signed by :* R. Leslie Collett, H. J. T. Ellingham, G. Roche Lynch.

***Garforth, Francesca Mary (Mrs.),** B.Sc. (Lond.). British. 45, Clarendon Road, Redland, Bristol, 6. Research Student. *Signed by :* C. K. Ingold, H. G. Poole, E. D. Hughes.

Gerrard, William Fred, A.R.I.C., M.Inst.F. British. 94, The Northern Road, Crosby, Liverpool, 23. Analytical and research chemist to the Liverpool Borax Co., Ltd., 6, St. Paul's Square, Liverpool. *Signed by :* James S. Merry, W. Murray, H. Warne.

Harrison, Geoffrey Frederick, B.Sc. (Lond.). British. 89, Blenheim Road, Bolton. Bacteriologist, Messrs. Bowmans (Warrington), Ltd., Chemical Manufacturers, Moss Bank Works, Widnes. *Signed by :* John C. Roberts, G. R. Barker, D. O. Jordan.

Hart, Stanley James, Inter.B.Sc. (Lond.), A.R.I.C. British. 50, Heather Drive, Dartford. Works Chemist, W. T. Henley's Telegraph Co., North Woolwich, E. 16. *Signed by :* John Harvey, Arthur I. Vogel, D. M. Cowan.

Hilal, Osman Mohamed Mansour, M.Sc. (Fouad I University). Egyptian. Chemistry Department, University College, Gower Street, W.C. 1. Research Student. *Signed by :* S. Sugden, Henry Terrey, J. N. E. Day.

Huang, Hsin-Min, B.Sc. (National Tsing Hua University). Chinese. University Chemical Laboratory, Pembroke Street, Cambridge. Research Student. *Signed by :* F. G. Mann, A. R. Todd, J. W. G. Porter.

***Jenkins, David Philip.** British. Charnwood, Upper Canning Street, Ton Pentre, Rhondda. Student of Chemistry. *Signed by :* W. G. Palmer, N. B. Chapman, Alex. R. Todd.

Krishnan, Kariamanikkam Srinivasa, D.Sc. (Madras), F.R.S. British. The University, Allahabad. Professor of Physics, University of Allahabad. *Signed by :* C. H. Desch, J. M. Robertson, G. A. Jeffrey.

Mills, Herbert, M.Sc., Ph.D. (Dun.), F.R.I.C. British. 52, Church Road, Hale, Liverpool. Chief of Research, Pigment Group, Imperial Smelting Corporation. *Signed by :* J. G. Cockburn, J. Southwood, S. Pickholz.

***Murray, Margaret Alison,** B.A. (Cantab). British. Newnham College, Cambridge. Research Student, Cambridge University. *Signed by :* M. L. Tomlinson, Alex. R. Todd, B. Lythgoe.

***Parsons, Roger,** A.R.C.S. British. 45, South End Road, Hampstead, N.W. 3. Research Student. *Signed by :* A. A. Eldridge, H. V. A. Briscoe, E. R. H. Jones.

Poole, Francis Joseph Thomas, Inter.B.Sc. (Lond.). British. 44, Clark Road, Wolverhampton. Chief Chemist, West Midlands Joint Electricity Authority, Phoenix Buildings, Dudley Road, Wolverhampton. *Signed by :* John C. Warr, L. G. Gabriel, C. W. Mobberley.

Schweitzer, Hans, M.A. and D.Phil. (Berlin). Austrian. Saxons, Yester Road, Chislehurst. Technical Manager, Cathode Chemicals, Ltd., 4, Lloyds Avenue, E.C. 3. *Signed by :* G. S. W. Marlow, J. Whittaker, R. Barrington Brock.

Scully, Dewi Brynmor, B.A. (Oxon). British. Treffgarne, Clasemont, Morriston, Swansea. Fuel Engineer, Ministry of Fuel. *Signed by :* John F. W. McOmie, W. Baker, H. B. Watson.

Smith, Harold Hughes. British. c/o Mrs. Clark, 25, Marlborough Road, Roatt, Cardiff. Chief Chemist, International Alloys, Cardiff. *Signed by :* A. S. Minton, D. Owen Davies, Edmund Frankel.

***Spaull, Allan James Barnard.** British. 652 Rochester Way, Eltham Park, S.E. 9. Student, University College, Southampton. *Signed by :* H. W. B. Reed, Ishbel G. M. Campbell, G. F. Snook.

Stewart, Eric Theal, M.Sc. (Cape Town). South African. Department of Chemistry, University of Cape Town. Junior Lecturer in Chemistry. *Signed by :* E. Newbery, W. Pugh, W. S. Rapson.

***Stranz, Gertraud Anna,** B.Sc. (Lond.). German. 55, Oakleigh Drive, Croxley Green, Herts, Research Chemist. *Signed by :* R. W. West, W. Gerrard, D. H. Richardson.

Ward, Edward Raymond, B.Sc.Hons. (Lond.), A.R.I.C. British. 66, Deighton Road, Deighton, Huddersfield. Research Student and part-time Lecturer. *Signed by :* Herbert H. Hodgson, D. P. Dodgson, P. B. R. Murti.

***Whitaker, Alma Mary Beryl.** British. Newnham College, Cambridge. Reading for Part II, Natural Sciences Tripos, Cambridge. *Signed by :* Delia M. Simpson, M. L. Tomlinson, A. E. Alexander.

***Wilson, George Alexander,** M.Sc. (Q.U.B.), A.R.I.C. British. Bogvale, Aghadowe, Co. Derry. Assistant in the Chemistry Department, Queens University, Belfast. *Signed by :* R. C. Pink, A. R. Ubbelohde, H. Graham.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Gates, William Nikola. Absolutorium of Studies, Vienna University. Palestinian. P.O.B. 1611, Haifa, Palestine. Clerk, H.Q., 3 Base Workshops, Royal Electrical and Mechanical Engineers, Khayat Beach. *Signed by :* Gerrard W. Baker.

Krauze, Stanislaw, D.Pharm. (Warsaw). Polish. 24 Chocimska Str., Warsaw. Professor of Lodz University, Chair for Food Inspection. Chief of Food Control in Poland, Food Department of State Institute of Hygiene in Warsaw. *Signed by :* H. E. Cox.

Spector, Leonard B. M.S. (Michigan). American. 254 Osborne Terrace, Newark 8, New Jersey, U.S.A. Chemist, Clinton Laboratories, Oak Ridge, Tennessee. *Signed by :* R. P. Linstead.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between July 10th and August 9th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The conversion of sucrose into thiazole derivatives. Part I. Sulphanilamidothiazoles derived from levulic acid." By H. GREGORY and L. F. WIGGINS.

"Tetra-aryl-phosphonium, -arsonium and -stibonium salts. Part III. The synthesis and properties of tetra-arylarsonium salts having four dissimilar aryl groups." By F. G. MANN and J. WATSON.

"The infra-red spectra and molecular structure of certain isomeric diazocyanides." By N. SHEPPARD and G. B. B. M. SUTHERLAND.

"The action of Grignard reagents on esters of optically active carboxylic acids." By A. CAMPBELL and J. KENYON.

"Anhydrides of polyhydric alcohols. Part VI. 1 : 4-3 : 6-Dianhydro mannitol and 1 : 4-3 : 6-dianhydro sorbitol from sucrose." By R. MONTGOMERY and L. F. WIGGINS.

"The Skraup reaction with *m*-substituted anilines." By L. BRADFORD, T. J. ELLIOTT, and F. M. ROWE.

"The chemistry of β-chloroalkylamines. Part I. Preparation and general reactions." By W. E. HANBY and H. N. RYDON.

"The chemistry of β-chloroalkylamines. Part II. Reactions of tertiary β-chloroalkylamines in water." By W. E. HANBY, G. S. HARTLEY, E. O. POWELL, and H. N. RYDON.

"The chemistry of β-chloroalkylamines. Part III. The dimerisation and hydrolysis of ββ′β″-trichloroethylamine." By C. W. CRANE and H. N. RYDON.

"Some dichloroamine derivatives." By L. J. LERMIT and (the late) R. C. G. MOGGRIDGE.

"British anti-Lewisite and related compounds." By L. A. STOCKEN.

"A reaction of certain diazosulphonates derived from β-naphthol-1-sulphonic acid. Part XIX. Derivatives of 4′-nitro-2′-methoxybenzene-2-naphthol-1-diazosulphonate." By F. M. ROWE and E. J. CROSS.

"A reaction of certain diazosulphonates derived from β-naphthol-1-sulphonic acid. Part XX. The stabilities of acrylic acid derivatives from sodium 1-arylazo-β-naphthaquinone-1-sulphonate and an investigation of derived *iso*indolinones." By F. M. ROWE, W. T. MCFADYEN, and A. T. PETERS.

"Evidence for the bromolytic bond fission of 'positive halogen' compounds." By A. ROBERTSON and W. A. WATERS.

"Nitration in sulphuric acid. Part IV. Kinetics of the nitration of 2 : 4-dinitrotoluene." By G. M. BENNETT, J. C. D. Brand, D. M. JAMES, T. G. SAUNDERS, and G. WILLIAMS.

"Magnetic optical rotatory powers and diamagnetic susceptibilities of the isomeric aromatic diazocyanides." By D. ANDERSON, (MISS) M. E. BEDWELL, and R. J. W. LE FÈVRE.

"The constitution of ψ-santonin. Part III. Some synthetical experiments." By WESLEY COCKER and C. LIPMAN.

"Amidines. Part VI. Preparation of 2-substituted 4 : 5-dihydroglyoxalines and ring homologues from cyanides and alkanediamines." By P. OXLEY and W. F. SHORT.

"The chemistry of 1-azanthraquinone. Part II. Sulphonation of 1-azanthraquinone." By G. R. CLEMO and N. LEGG.

"The chemistry of 1-azanthraquinone. Part III. Chloro-derivatives of 2 : 4-dimethyl-1-azanthraquinone." By G. R. CLEMO and N. LEGG.

"The conversion of sucrose into pyridazine derivatives. Part II. 4-Amino-2-phenyl-6-methyl-3-pyridazine, 4-amino-2-(*p*-nitrophenyl)-6-methyl-3-pyridazine, and their sulphanilamido derivatives." By W. G. OVEREND and L. F. WIGGINS.

"Synthesis of diaminoacridines. Part II." By A. A. GOLDBERG and W. KELLY.

"Composition, pressure, and temperature relationships in binary azeotropic systems." By E. A. COULSON and E. F. G. HERINGTON.

"The mechanism of substitution at a saturated carbon atom." By A. G. EVANS, M. G. EVANS, and M. POLANYI.

"Carbazoles. carbolines, and related compounds. Part I. Quindoline derivatives." By S. J. HOLT and V. A. PETROW.

"The structure of clavatol, a metabolic product of *Aspergillus clavatus*." By C. H. HASSALL and A. R. TODD.

"An *X*-ray and thermal examination of the glycerides. Part VIII. Glycerides of erucic, brassidic, oleic, and elaidic acids." By M. G. R. CARTER and T. MALKIN.

"Attempts to find new chemotherapeutic amidines. Part VII." By J. O. HARRIS.

"The vapour pressure of water over aqueous solutions of the chlorides of zinc and cadmium." By J. E. GARSIDE.

"Some amines and amides derived from vanillin." By A. A. L. CHALLIS and G. R. CLEMO.

"Steroids and the Walden inversion. Part I. Derivatives of androstane and cholestane." By C. W. SHOPPEE.

"Steroids and the Walden inversion. Part II. Derivatives of Δ^5-cholestene and Δ^5-androstene." By C. W. SHOPPEE.

"The metabolism of polycyclic compounds; the configuration of the dihydroxydihydroanthracenes produced from anthracene." By E. BOYLAND and C. W. SHOPPEE.

"The cyano-ethylation of arsines, and the preparation of amidinoalkylarsines and carboxyalkylarsines." By R. C. COOKSON and F. G. MANN.

LOCAL REPRESENTATIVES OF THE CHEMICAL SOCIETY

Aberdeen.	J. M. C. Thompson, M.A., D.Phil., A.R.I.C., Chemistry Department, Marischal College, The University, Aberdeen.
Australia.	T. Iredale, D.Sc., F.R.I.C., The University, Sydney, Australia.
Birmingham.	L. L. Bircumshaw, M.A., D.Sc., Department of Chemistry, The University, Edgbaston, Birmingham, 15.
Bristol.	C. E. H. Bawn, Ph.D., Chemistry Department, The University, Woodland Road, Bristol.
Cambridge.	B. Lythgoe, Ph.D., Organic Chemistry Department, The University, Cambridge.
Canada.	Professor W. D. McFarlane, M.A., Ph.D., Macdonald College, St. Anne de Bellevue, Quebec, Canada.
Edinburgh.	E. G. V. Percival, D.Sc., Ph.D., F.R.I.C., Chemistry Department, King's Buildings, West Mains Road, Edinburgh.
Eire.	Professor T. S. Wheeler, D.Sc., Ph.D., F.R.I.C., Chemical Department, University College, Upper Merrion Street, Dublin.
Exeter.	S. J. Gregg, Ph.D., A.R.C.S., A.R.I.C., Department of Chemistry, Washington Singer Laboratories, Prince of Wales' Road, Exeter.
Glasgow.	J. D. Loudon, Ph.D., Chemistry Department, The University, Glasgow, W. 2.
India.	Sir Shanti S. Bhatnagar, O.B.E., D.Sc., F.R.S., The University, Lahore, Punjab, India.
Leeds.	F. R. Goss, D.Sc., Ph.D., F.R.I.C., The University, Leeds, 2.
Liverpool.	W. B. Whalley, B.Sc., Ph.D., Organic Chemistry Department, The University, Liverpool.
,,	L. A. Haddock, M.Sc., F.R.I.C., I.C.I. Ltd., (General Chemicals Division), Research Department, Widnes Laboratory, Widnes.
Manchester.	A. E. Gillam, D.Sc., F.R.I.C., Chemistry Department, The University, Manchester.
,,	J. C. Withers, Ph.D., A.R.I.C., Shirley Institute, Didsbury, Manchester.
Newcastle and Durham.	W. Cocker, Ph.D., M.Sc., Chemistry Department, Kings College, Newcastle-on-Tyne.
New Zealand.	Professor F. G. Soper, D.Sc., Ph.D., F.R.I.C., University of Otago, Dunedin, New Zealand.
Northern Ireland.	H. Graham, D.Sc., A.R.I.C., 26, Malone Hill Park, Belfast.
North Wales.	W. Rogie Angus, M.A., D.Sc., Ph.D., F.R.I.C., Department of Chemistry, University College of North Wales, Bangor.
Nottingham.	D. O. Jordan, Ph.D., M.Sc., A.R.I.C., University College, University Park, Nottingham.
Oxford.	R. P. Bell, M.A., B.Sc., F.R.S., Balliol College, Oxford.
St. Andrews and Dundee.	J. D. M. Ross, M.B.E., M.A., D.Sc., Chemistry Department, University College, Dundee.
Sheffield.	Brynmor Jones, B.Sc., Ph.D., Chemistry Department, The University, Sheffield, 10.
South Africa.	Professor W. Pugh, Ph.D., B.Sc., F.R.I.C., Chemistry Department, University of Cape Town, Rondebosch, S. Africa.
Southampton.	S. H. Harper, B.Sc., D.Sc., Ph.D., A.R.C.S., D.I.C., University College, Southampton.
South Wales.	Professor J. E. Coates, O.B.E., D.Sc., F.R.I.C., University College, Singleton Park, Swansea.

TECHNOLOGY DEPT.

September, 1946

THE CHEMICAL SOCIETY

NOTICE OF SCIENTIFIC MEETINGS DURING NOVEMBER.

LONDON (Burlington House).

Thursday, November 7th, 1946, at 7.30 p.m.

Discussion, **Nitration,** arranged by Dr. G. M. Bennett, M.A., F.R.I.C.

The following contributions will be made:

Nature of the nitrating agent:

(*a*) General argument, Migration, Water-titration — by Dr. G. M. Bennett, M.A., F.R.I.C., and Mr. J. C. D. Brand, M.Sc.

(*b*) Cryoscopy, Hantzsch's perchlorates, Raman evidence — by Professor C. K. Ingold, D.Sc., F.R.S., and Mr. D. J. Millen, B.Sc.

Kinetics of nitration in sulphuric acid, by Professor Gwyn Williams, D.Sc., Ph.D.

Kinetics of nitration in other solvents:

(*a*) Organic solvents, (*b*) Water — by Professor E. D. Hughes, D.Sc., Ph.D., F.R.I.C., and Dr. I. Reed.

(A limited number of abstracts of the contributions will be available and can be obtained by Fellows from the General Secretary.)

Thursday, November 21st, 1946, at 7.30 p.m.

The following papers will be read and discussed:

"The kinetics of halogen addition to unsaturated compounds. Part XII. Iodine catalysis of chlorine and bromine addition to ethyl cinnamate," by H. D. C. Waters, A. R. Caverhill, and P. W. Robertson.*

"Evidence for the homolytic bond fission of 'positive halogen' compounds," by A. Robertson and W. A. Waters.*

OUTSIDE LONDON.

EIRE.

Wednesday, November 20th, 1946, at 7.30 p.m.

Paper, **Biochemical Microtechnique.** To be read by Dr. T. G. Brady, M.Sc., A.R.I.C.

Joint meeting with the Local Section of the Royal Institute of Chemistry, to be held in the Chemical Department of University College, Upper Merrion Street, Dublin.

EDINBURGH.

Thursday, November 21st, 1946, at 7.30 p.m.

Lecture, **Some Developments in the General Methods of Organic Chemistry,** by Professor F. S. Spring, D.Sc., Ph.D.

Joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held in the North British Station Hotel.

GLASGOW.

Friday, November 15th, 1946, at 7.15 p.m.

Lecture, **Melting and Other Phase Changes,** by Professor A. R. Ubbelohde, M.A., D.Sc., F.R.I.C.

To be held in the Chemistry Lecture Theatre of the University.

* To read paper.

LIVERPOOL.

Wednesday, November 13th, 1946, at 5 p.m.

Lecture, **Some Applications of Infra-red Measurements,** by Dr. H. W. Thompson, M.A., F.R.S.
To be held in the Chemistry Lecture Theatre of the University.

Thursday, November 27th, at 7 p.m.

Lecture, **The Development and Industrial Application of Wetting Agents,** by Mr. A. V. Billinghame, B.Sc.
Joint Meeting with the Local Section of the Royal Institute of Chemistry to be held in the Chemistry Lecture Theatre of the University.

MANCHESTER.

Friday, November 15th, 1946, at 6.30 p.m.

Lecture, **The Chemistry of Plant Gums and Related Substances,** by Professor E. L. Hirst, M.A., D.Sc., F.R.S., and Dr. J. K. N. Jones, M.Sc., A.R.I.C.
Joint meeting with the Manchester Federation of Scientific Societies.
(Place of meeting to be announced later.)

NEWCASTLE AND DURHAM.

Friday, November 22nd, 1946, at 5 p.m.

Bedson Club Lecture, **Insecticides,** by Dr. J. L. Simonsen, F.R.S., F.R.I.C.
To be held at King's College, Newcastle-on-Tyne, and all Fellows are invited.

NORTH WALES.

Thursday, November 21st, 1946, at 5.30 p.m.

Lecture, **Nitration in Sulphuric Acid,** by Dr. G. M. Bennett, M.A., F.R.I.C.
Joint meeting with the University College of North Wales Chemical Society, Liverpool section and the University of Liverpool Chemical Society, to be held in the Department of Chemistry at University College, Bangor.

NOTTINGHAM.

Thursday, November 21st, 1946, at 4.30 p.m.

Lecture, **Some Aspects of the Chemistry of Paludrine,** by Dr. F. L. Rose.
Joint meeting with the University College Physical and Chemical Society to be held in the Large Chemistry Theatre of University College.

ST. ANDREWS AND DUNDEE.

Friday, November 15th, 1946, at 5 p.m.

Lecture, **Applications of the Hofmann Reaction to the Synthesis of Heterocyclic Compounds,** by Professor F. S. Spring, D.Sc., Ph.D.
Joint meeting with the St. Andrews University Chemical Society to be held in the Chemistry Lecture Theatre, United College, St. Andrews.

SHEFFIELD.

Friday, November 8th, 1946, at 5.30 p.m.

Lecture, **Some Applications of Infra-red Measurements,** by Dr. H. W. Thompson, M.A., F.R.S.
Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

Thursday, November 21st, 1946, at 6 p.m.

Lecture, **Chemistry in the Metallurgical Industries,** by Dr. C. H. Desch, F.R.S.
Joint meeting with the South Yorkshire Section of the Royal Institute of Chemistry, the Sheffield Metallurgical Association, and the University Chemical Society, to be held in the Chemistry Lecture Theatre of the University.

SOUTH WALES.

Friday, November 1st, 1946, at 6 p.m.

Lecture, **Homolytic Reactions,** by Professor D. H. Hey, D.Sc., Ph.D., F.R.I.C.
Joint meeting with the University College of Swansea Chemical Society to be held at University College, Swansea.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

OFFICIAL ANNOUNCEMENTS.

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Raymond Edwin Crowther (Beaconsfield)	May 2nd, 1912	April 16th, 1946
Owen Richard Jones (Holyhead)	Nov. 16th, 1944	July 27th, 1946
Edgar Francis Smith (N.W. 1)	Feb. 21st, 1884	July 16th, 1946
Helmut Strauss (Ealing)	Jan. 18th, 1945	Aug. 2nd, 1946

CONGRATULATIONS.

The President has conveyed the congratulations of the Council to Edgar William Richard Steacie, who was awarded the O.B.E. in the Dominion (Canada) Day Honours List.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. D. Bagley, Mrs. K. Fyleman, Mr. P. McGregor, Dr. R. Raper and the Wellcome Foundation for gifts of the Society's publications, and to the Royal Society for a contribution from the Scientific Publications Grant-in-Aid Fund towards the cost of publications.

CENTENARY CELEBRATIONS AND 11TH INTERNATIONAL CONGRESS OF PURE AND APPLIED CHEMISTRY.

At the 10th International Congress of Pure and Applied Chemistry held in Rome in May 1938, it was unanimously decided that the 11th Congress should be held in London in 1941 concurrently with the celebration of the centenary of the foundation of the Chemical Society.

By reason of the war, both the Centenary Celebrations of the Chemical Society and the 11th International Congress were postponed; it has now been decided that both events should take place in London in July 1947.

The Centenary Celebrations will take place in London on July 15th—17th, 1947. Distinguished Chemists from overseas are being invited to take part. The programme will include a Centenary Address and a Centenary Dinner, the Faraday Lecture and other lectures, social functions, and visits to places of interest in the London area.

The 11th International Congress of Pure and Applied Chemistry will meet in London, under the presidency of Lord Leverhulme, from the 16th July, 1947, to 24th July, 1947, and it is hoped that delegates from many countries will be present.

To co-ordinate action on matters of common concern to the Society and the Congress a Collaboration Committee has been set up.

Details about the Centenary Celebrations will be notified to Fellows in due course.

Further information about the Congress may be obtained from the Hon. Organiser at the following address:—

The 11th International Congress of Pure and Applied Chemistry,
56, Victoria Street,
London, S.W. 1.
Telephone: Victoria 5216.

REDUCED SUBSCRIPTION FOR FELLOWS UNDER 25 YEARS OF AGE.

In accordance with the proposal which was agreed at the Extraordinary General Meeting held on the 25th July, 1946, the Council have decided that the reduced annual subscription payable by Fellows under 25 years of age be increased from £1 10*s*. 0*d*. to £1 15*s*. 0*d*. as from January 1st, 1947.

LIFE COMPOSITION FEES.

The following is the scale of life composition fees which will come into effect on the 1st January, 1947.

	£	s.	d.
Fellows who have paid less than 10 annual subscriptions	52	10	0
" " " " more " 10 " "	35	0	0
" " " " " " 15 " "	26	5	0
" " " " " " 20 " "	21	0	0
" " " " " " 25 " "	17	10	0

QUARTERLY REVIEWS.

During 1947 the Society will publish a series of *Quarterly Reviews* in addition to the *Annual Reports on the Progress of Chemistry*. Each quarterly issue will be of approximately 96 pages and will be composed of articles on selected topics from general and physical, inorganic, and organic chemistry. It is intended that each review article shall be of interest to chemists generally and not only to workers in the particular field. It is hoped that the first issue will be published at the end of February 1947 and thereafter at three monthly periods.

FELLOWS' CHOICE OF PUBLICATIONS IN 1947.

(a) *Fellows paying separate subscription.*

The Council have decided that the choice of publications to Fellows in 1947 should be as follows:

(i) Fellows paying the full annual subscription of £3 10*s*. 0*d*. to have the choice of receiving any three of the following publications:

(*a*) Journal.
(*b*) Abstracts A I.
(*c*) Abstracts A II.
(*d*) Abstracts A III.
(*e*) Annual Reports on the Progress of Chemistry.
(*f*) Quarterly Reviews.
(*g*) Reprints of Lectures appearing in the Journal.

Fellows paying the full annual subscription may obtain, on request, Abstracts printed on one side of the paper on payment of an additional 3*s*. per section.

Further publications of the Chemical Society can be obtained at schedule prices details of which will be circulated separately to Fellows.

(ii) Fellows paying the reduced annual subscription of £1 15*s*. 0*d*. to have the choice of receiving:

(*a*) Annual Reports *and* Quarterly Reviews.
(*b*) Annual Reports *or* Quarterly Reviews and one other publication selected from (i) (*a*), (*b*), (*c*), (*d*), and (*g*).

with the right to purchase Reprints of Lectures at 5*s*. per annum if not chosen as a free publication.

Unless Fellows indicate that they do not wish to receive them one copy of Abstracts "A" Index and copies of Abstracts "C" (Analysis and Apparatus) are supplied to Fellows receiving one or more sections of the Abstracts.

(b) *Fellows paying joint subscription to Conjoint Chemical Office.*

Quarterly Reviews will be included in the choice of publications. The usual list of schedule prices will be forwarded by the Conjoint Chemical Office in due course.

RESEARCH FUND.

A meeting of the Research Fund Committee will be held in November next. All persons who have received grants, and whose accounts have not been declared closed by the Council, are informed that reports must be received by the Society not later than November 1st, 1946.

Applications for Grants, to be made on forms obtainable from the General Secretary, must be received on or before November 1st, 1946. Applications from Fellows will receive prior consideration.

Attention is drawn to the fact that the income arising from the Donation of the Worshipful Company of Goldsmiths is principally devoted to the encouragement of research in Inorganic and Metallurgical

Chemistry, and that the income from the Perkin Memorial Fund is to be applied to investigations relating to problems connected with the Coal Tar and Allied Industries.

YORKSHIRE COUNCIL FOR FURTHER EDUCATION.

In response to an invitation from the Yorkshire Council for Further Education to appoint two representatives on the Advisory Committee for Chemistry in South and East Yorkshire, the Council of the Society have appointed Professor R. D. Haworth and Dr. Brynmor Jones who have agreed to represent the Society.

ROYAL COMMISSION ON AWARDS TO INVENTORS.

The Royal Commission on Awards to Inventors will begin its public hearings on November 12th, 1946, details of cases to be heard being published in the Daily Cause List. A pamphlet giving instructions to intending claimants, etc., can be obtained from H.M. Stationery Office, or any bookseller, price 2*d*., by post 3*d*. Reprints of the pamphlet first published in 1929 " Statement of the Principles of Assessment Governing Compensation adopted by the Royal Commission on Awards to Inventors " to which principles in general, the present Commission will have regard, can also be obtained price 6*d*., by post 7*d*.

ELECTION OF NEW FELLOWS.

The following 101 candidates were elected Fellows of the Chemical Society on September 5th, 1946 :

Harold Adams.
Ahmed Mohamed Azzam.
William Barrow Bartley.
Maxwell Craig Barton.
Richard Allen Baxter.
Harold Bellamy.
Michael Bernstein.
Indubhushan Biswas.
David Stanley Broadbent.
Clifford Allen Bunton.
Archie Hector Cameron.
Cyril Chaventre.
Stanley Bartlett Clark.
Albert Cordes.
Mary Corner.
Hamish MacLaren Cranstoun.
Goronwy Davies.
Isadore Davies.
George Thomson Dickson.
William von Eggers Doering.
Donald Edwards.
Bedrich Eisler.
William Douglas Fordham.
Kenneth Edward Fowler.
Hans Richard Frank.
K. Ganapathi.
William Gibb.
Claude Godet.
Alec Leonard Godier.
Peter Edward Gray.
Raeburn Arthur Gregory.
Jeanne Olive Hanchard.
Edwin George Edward Hawkins.
John Heald.
Dennis John Higgons.
Donald Gordon Hodge.
Wilfred Frank Holleyman.
Wilfred George Hutcheson.
Ralph Iley.
George John.
Paley Johnson.
Thomas Young Johnston.
Frederick Arthur Jones.
Hugh Trefor Jones.
Patrick Gadsden Jones.
Peter Hayden Kemp.
Avadh Behari Lal.
Robert Pembruge Langston.
Jeffrey Lee.
Simon Lisowicz.
Kathleen Lonsdale.
Louis Bernard McGrath.
Angus Fraser McIntosh.
Alexander Cockburn Maclean.
John Farqueharson Macpherson.
William Clark Marshall.
Colin Frederick Mills.
Clarence Allison Morrell.
Arthur Leslie Morris.
William Morris.
Martin Mugdan.
Sidney Maurice Neale.
Percy John Neate.
Hugh Henry Neville.
Peter James Norman.
William Henry Hobbs Norris.
John Richard Nunn.
Gregers Lejf Østrup.
Ronald Harry Ottewill.
Iain Allan Burnett Pender.
Edward George Peppiatt.
Robert Philip.
Harold Piper.
Richard Graham Powell.
S. Balakrishna Rao.
Henry George Rees.
Douglas Willie Riley.
Joseph Alan Roper.
George Alan Rose.
Nami Serdaroğlu.
Willi Georg Schmidt.
Sean Sheehan.
Frederick Walter Shipley.
William Stanley Short.
Nazar Singh.
Jack Smart.
John Alec Sydney Smith.
Edward Peter Spencer.
Frank John Steele.
Thea Rodna Stephan.
David Stockdale.
Vilem Stross.
Monique George Louise Tabutaut.
Alfred James Taylor.
Ronald John Thompson.
Douglas Leslie Tyler.
Paul Alexander Valton.
James Andrew Jamieson Walker.
John Kevin Whelehan.
James Matchett Wilson.
Christopher Cavill Yates.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before October 31st, 1946. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Baker, Philip Basil, M.P.S. British. 34, Albert Grove, Lenton Sands, Nottingham. Bacteriologist, Research Division, Boots Pure Drug Co. *Signed by :* John W. Albans, G. Sykes, R. Falconer.

Boggust, William Austin, B.Sc. (Dun.). English. Kynance, 358, Coniscliffe Road, Darlington. Student. *Signed by :* Wesley Cocker, G. R. Clemo, Richard Raper.

Bracken, Arthur, B.Sc. (Lond.), A.R.I.C. British. 76, Clarendon Road, Colliers Wood, S.W. 19. Senior Laboratory Technician. *Signed by :* H. Raistrick, J. H. Birkinshaw, S. E. Michael.

Brand, Boris Peter, B.A. (Cantab.). British. 33, Castellain Road, Maida Vale, W. 9. Research Chemist. *Signed by :* Maurice G. Charlton, P. E. Lovering, M. L. Smith.

Burley, Louis Theodore Le Gay, B.Sc.Hons. (Lond.), A.R.I.C. British. 10, Berkeley Road, Bournemouth. General Manager of the British Drug Houses, Ltd., at Poole. *Signed by :* Charles Ockrent, R. R. Bennett, Francis H. Carr.

***Conway, Brian Evans,** A.R.C.S. British. The Cottage, Warren Road, Farnborough. Research Student. *Signed by :* A. A. Eldridge, J. F. Herringshaw, E. R. H. Jones.

***Cumming, Eva Barbara,** B.Sc.Hons. (Glas.). British. The Dell, Giffnock, Glasgow. Demonstrator in Chemistry, Royal Technical College, Glasgow. *Signed by :* F. Rumford, John McLean, H. G. A. Anderson, Ezra Golombok.

Edmed, Barbara Augusta, B.Sc. (Lond.). British. 210, Priests Lane, Shenfield. *Signed by :* S. C. Mitchell, H. J. Spriggs, S. O. Rawling.

***Fowler, Robert Thomas,** B.Sc. (Wales). British. 37, Silverdale Road, Bexleyheath. Research Metallurgist. *Signed by :* A. H. Howland, F. A. J. Moss, D. Bryce Smith.

***Hassall, Kenneth Arnold,** B.Sc. (Lond.). British. 44, Beresford Road, Southall. Research on Antibiotics. *Signed by :* J. G. Maltby, J. C. J. Graham, C. A. Brighton.

Heberlein, George, Ph.D. (Zurich). Swiss. Wattwil, Switzerland. Managing Director of Heberlein & Co., A. G., Wattwil. *Signed by :* C. J. Whitelegg, J. C. Withers, Douglas W. Hill, D. Coleman.

***Holman, Peter Dennis Hocking,** B.Sc. (Lond.). British. Thornton House, Gorse Wood Road, Hartley, Longfield, Kent. Student. *Signed by :* J. Kenyon, A. Houston, J. W. Smith.

Holton, Graham Willis, B.Sc.Hons. (L'pool). British. c/o 4, Lindon Street, Lancaster. Development Chemist. *Signed by :* R. D. Williams, A. McGookin, W. B. Whalley.

Jain, Bimal Das, B.Sc.Hons. and M.Sc. (Punjab). Lecturer in Chemistry, University of Delhi; Chemical Adviser to the Chief Commissioner, Delhi, 1942—1943. Indian. Department of Chemical Technology, Imperial College, S.W. 7. Post-graduate student. *Signed by :* Alfred C. Egerton, D. M. Newitt, G. J. Minkoff.

Jenkins, Philip Aldwyn, B.Sc. (Lond.). British. 10, Sussex Place, Hyde Park, W. 2. Analytical Chemist. *Signed by :* W. D. Williams, J. Ormston, H. B. Watson.

Jones, Karl Bryce Warner, B.Sc. and Ph.D. (Lond.), A.R.C.S., A.R.I.C. British. 109, Clarendon Drive, Putney, S.W. 15. Chief Chemist, British Fermentation Products, Ltd. *Signed by :* Alex. Findlay, H. J. T. Ellingham, R. Leslie Collett.

Kuenzli, Robert Albert Conrad, B.Sc. (Lond.), A.R.C.S., D.I.C. British. 28, Plantation Grove, Bill Quay, Gateshead 10. Industrial Research Chemist, Synthetic Resins and Plastics. *Signed by :* F. G. Palmer, Robert Wilson, H. L. Hutton.

Lecomber, Leslie Vincent, B.Sc. (Manc.), A.R.I.C. British. 25, Manor Road, Teddington. Research Chemist. *Signed by :* T. A. Pressley, W. H. J. Vernon, D. V. N. Hardy.

***Mamalis, Patrick,** B.Sc.Hons. (Lond.). British. 253, Bellenden Road, S.E. 15. Research Chemist. *Signed by :* D. H. Hey, J. C. D. Brand, P. C. Crofts.

***Millen, Douglas James,** B.Sc. (Lond.). British. 23, Woodland Gardens, Muswell Hill, N. 10. Assistant Lecturer, University College. *Signed by :* C. K. Ingold, E. D. Hughes, S. Sugden.

Morgan, Edward Norman, B.Pharm. (Wales), A.R.I.C. British. 38, Ritherdon Road, S.W. 17. Research Chemist. *Signed by :* H. Raistrick, J. H. Birkinshaw, S. E. Michael.

Nicholson, Andrew. British. 9, Rothbury Gardens, Isleworth. Chief Chemist, The Pyrene Company, Ltd. *Signed by :* S. W. Johnson, W. J. Clifford, Keith Ebbutt.

***Nuttall, James Robert Lewis.** British. Woodside House, Bunkers Hill Road, Romiley, nr. Stockport. Student. *Signed by :* Alex. R. Todd, N. B. Chapman, R. Hull.

***Page, Delia Margaret,** B.Sc.Hons. (Lond.). English. 15, Fulham High Street, S.W. 6. Research Chemist at Messrs. Fredk. Boehm, Ltd., Plaistow, E. 13. *Signed by :* A. A. Houghton, P. J. Hawkins, H. R. Soper.

Rees, Harold Anthony, M.Sc. (Lond.). British. 53, Lincoln Avenue, Whitton. Senior Chemistry Lecturer, The Technical College, Kingston-on-Thames. *Signed by :* A. Hickling, A. Jackman, L. Hunter.

***Reynolds, Joan Anne,** B.Sc. (Lond.). British. 135, Salisbury Road, Welwyn Garden City. Organic Chemist. *Signed by :* S. C. Mitchell, C. W. Picard, E. Reid.

Rieder, Viliam, B.Sc. (Lond.). Czechoslovakian. 24, Caledonia Street, King's Cross, N. 1. Works and Research Chemist at Putridomors Company. *Signed by :* Jonas Bondi, Alfred Herzka, H. L. Lehmann.

***Salter, John Austin,** B.A. (Oxon), Scholar of Lincoln College, Oxford. British. 91, Topstreet Way, Harpenden. Research Student. *Signed by :* N. V. Sidgwick, Harry Irving, L. E. Sutton.

Shaw, Tom Cartwright, M.Sc. and Ph.D. (Q.U.B.), A.R.I.C. British. 13, Chichester Road, Belfast, Northern Ireland. Senior Assistant Lecturer in Department of Chemistry, Queen's University, Belfast. *Signed by :* A. R. Ubbelohde, H. Graham, R. C. Pink.

Swain, Geoffrey, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. 3, Leslie Grove, Timperley, Altrincham. Research Chemist, I.C.I., Ltd., Dyestuffs Division, Blackley, Manchester. *Signed by :* A. D. Ainley, E. Hoggarth, F. L. Rose.

Waring, Wilson Shaw, M.Sc. (Manc.). British. Birch Croft, Dickenson Road, Manchester 14. Chemist. *Signed by :* H. Gudgeon, Edwin A. Shearing, R. J. W. Reynolds.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Costa, Ruy Gustavo Couceirs da, D.Sc. (Coimbra). Portuguese. Chemistry Department, The University, Coimbra. Professor and Director of the Chemical Laboratory of the Faculty of Science. *Signed by :* R. A. Morton.

Damas, Leon, Licencié en Sciences cons.Impérieuses (École Consulaire) Mons. Belgium. 62, Rue de l'Eglise, Mont sur-Marchienne, Belgium. Professor. *Signed by :* Leslie H. Lampitt.

Giordani, Francesco, Dr.Chem. (Naples). Italian. Istituto Chimico, Universita, via Mezzocannone 4, Napoli, Italy. Director of the Chemical Institute, The University, Naples. *Signed by :* Ian Heilbron.

Grifols, Victor, Bachelor in Chemical Science and in Pharmacy (Barcelona). Spanish. Rambla Cataluna 102, Barcelona, Spain. Technical Director of Laboratories Grifols S.A., Barcelona. *Signed by :* Denis I. Duveen.

Hobbs, Alan Keith, Diplomas Applied Chemistry and Metallurgy, Melbourne Technical College, A.R.I.C. British. 40, Seymour Road, Elsternwich Street, Melbourne, Australia. Factory Manager. *Signed by :* A. Keith Jack.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between August 10th and September 17th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"The kinetics of halogen addition to unsaturated compounds. Part X. Styrene, stilbene, and derivatives." By I. TING and P. W. ROBERTSON.

"The kinetics of halogen addition to unsaturated compounds. Part XI. The halogeno-ethylenes." By B. E. SWEDLUND and P. W. ROBERTSON.

"Some amino-derivatives of dihydro-β-quinindene and tetrahydroacridine." By V. A. PETROW.

"1 : 1 : 1-Trichloro-2 : 2-di-(4-ω-carbomethoxyphenyl)ethane." By I. E. BALABAN and F. K. SUTCLIFFE.

"A new method of preparing amidine salts." By J. H. MACGREGOR.

"The acylation of long chain aliphatic primary amines." By J. H. MACGREGOR and F. WARD.

"A problem in the styryl–pyridine series." By R. ROYER.

"The preparation and properties of thionaphthindoles." By C. E. DALGLIESH and F. G. MANN.

"Note on the preparation and properties of thiol-esters." By C. E. DALGLIESH and F. G. MANN.

"The synthesis of *N*-methyl-β-(3 : 4-dihydroxyphenyl)serine (adrenaline carboxylic acid)." By C. E. DALGLIESH and F. G. MANN.

"The preparation and properties of 2-substituted *iso*arsindolines and of *as.-spiro*bisi*iso*arsindolinium salts." By D. R. LYON, F. G. MANN, and (in part) G. H. COOKSON.

"Synthesis of nuclear amidino-derivatives of 5-aminoacridine." By A. A. GOLDBERG and W. KELLY. (Note by F. HAYNES.)

"Some α : β : β-triarylacrylonitriles, α : β : β-triarylacrylic acids, and their derivatives." By NG. PH. BUU-HOÏ and J. LECOCQ.

"The infra-red spectra of solid and liquid alkyl phenols." By T. A. KLETZ and W. C. PRICE.

"The chemistry of the pyrrocolines. Part V. The action of Grignard reagents and of iodine on 3-aceto-2-phenylpyrrocoline." By E. T. BORROWS and D. O. HOLLAND.

"The chemistry of the pyrrocolines. Part VI. The synthesis of pyrrocoline-2-carboxylic acid: a new route to pyrrocoline." By E. T. BORROWS and D. O. HOLLAND.

"Nucleotides. Part I. Muscle adenylic acid and adenosine diphosphate." By J. BADDILEY and A. R. TODD.

"The formation of phenanthroxazole by the action of diazomethane on phenanthraquinoneimine." By A. SCHONBERG and W. I. AWAD.

"The deamination of 2 : 6-dichloro-4-nitroaniline." By D. RIDGE.

"Preparation of 4 : 4′-dicyanobenzaldazine." By D. RIDGE.

"Studies in the detoxication of catalyst poisons. Part V. Thiophen." By E. B. MAXTED.

"Kinetics of nitrous gas absorption in aqueous nitric acid. Part I. Measurement of the rate of reaction." By K. G. DENBIGH and A. J. PRINCE.

"Kinetics of nitrous gas absorption in aqueous nitric acid. Part II. The theory of absorption in packed towers." By K. G. DENBIGH.

"Studies on phosphorylation. Part III. Further observations on the reaction of phosphites with polyhalogen compounds in presence of bases and its application to the phosphorylation of alcohols." By F. R. ATHERTON and A. R. TODD.

"Attempts to find new antimalarials. Part XXV. Some derivatives of 3 : 4 : 2′ : 3′-pyridoacridine substituted in the 2-position." By W. C. HUTCHISON and W. O. KERMACK.

"Thiohydantoins. Part I. Preparation of 5 : 5-disubstituted-2 : 4-dithiohydantoins from the corresponding ketones." By H. C. CARRINGTON.

"Thiohydantoins. Part II. Conversion of 5 : 5-disubstituted-2 : 4-dithiohydantoins to the corresponding monothiohydantoins." By H. C. CARRINGTON.

"Note. The preparation of trichloroacetic acid." By G. D. PARKES and R. G. W. HOLLINGSHEAD.

"On the suitability of parasantonide for asymmetric photolysis." By S. MITCHELL and E. J. Y. SCOTT.

"Note. Trityl derivatives of xylofuranose. 2-Acetyl-3 : 5-ditrityl and 2-methyl-3 : 5-ditrityl methylxylofuranoside." By R. J. MCILROY.

"Note upon the preparation of mono and bis mustard gas compounds with diethyl dithiocarbamate." By R. A. PETERS and R. W. WAKELIN.

"The crystal structure of pentaerythritol tetranitrate." By A. D. BOOTH and F. J. LLEWELLYN.

"The kinetics of the reaction between copper and iodine in various solutions. Part II. Solutions of iodine in organic solvents." By L. L. BIRCUMSHAW and M. H. EVERDELL.

"The kinetics of reaction between tin and solutions of bromine and iodine in organic solvents." By A. F. TROTMAN-DICKENSON and E. J. F. JAMES.

"The crystal structure of strontium azide." By F. J. LLEWELLYN and F. E. WHITMORE.

"The crystal structure of *p*-dinitrobenzene." By F. J. LLEWELLYN.

"Synthetic antimalarials. Part XVI. 4-Dialkylaminoalkylaminoquinazolines. Variation of substituents in the 6- and 7-positions." By N. B. CHAPMAN, G. M. GIBSON, and F. G. MANN.

"Synthetic antimalarials. Part XIV. Some 2-arylamino-4-aminoalkylaminoquinazolines." By F. H. S. CURD, J. K. LANDQUIST, and F. L. ROSE.

"Synthetic antimalarials. Part XV. Some aryloxy- and arylthio-dialkylaminoalkylaminopyrimidines." By F. H. S. CURD, (MISS) M. I. DAVIS, E. HOGGARTH, and F. L. ROSE.

"Attempts to find new chemotherapeutic amidines. Part VIII. Some aliphatic monoamidines." By G. NEWBERY and W. WEBSTER.

"Acenaphthene Series. Part II. Bromo-, nitro-, and amino-derivatives of 3 : 4-di*tert.*-butylacenaphthene, and some brominated thioindigoid dyes. Novel ace-substitution." By A. T. PETERS.

"A reaction of certain diazosulphonates derived from β-naphthol-1-sulphonic acid. Part XXI. Derivatives of 2′ : 4′-dinitrobenzene-2-naphthol-1-diazosulphonate." By F. M. ROWE and W. OSBORN.

"The mechanism of aromatic side-chain reactions with special reference to the polar effects of substituents. Part XIII. Kinetic examination of the reaction of aryl *iso*cyanates with methyl alcohol." By J. W. BAKER and J. B. HOLDSWORTH.

"Colchicine and related compounds. Part VI. 3 : 4 : 5 : 6-dibenz-$\Delta^{1:3:5}$-*cyclo*heptatriene." By J. W. COOK, G. T. DICKSON, and J. D. LOUDON.

"The constitution of a by-product from the preparation of trichloropyrimidine from barbituric acid." By F. E. KING, T. J. KING, and P. C. SPENSLEY.

"New potential chemotherapeutic agents. Part VI. Derivatives of 1 : 3-diaza-acridine." By F. E. KING and T. J. KING.

"Reactions in the presence of alkali. Part I. The reduction of ketones by primary alcohols." By G. H. HARGREAVES and L. N. OWEN.

"Reactions in the presence of alkali. Part II. The scission of ricinoleic acid." By G. H. HARGREAVES and L. N. OWEN.

"Reactions in the presence of alkali. Part III. The scission of αβ-ethylenic carbinols." By G. H. HARGREAVES and L. N. OWEN.

"A study of the properties of fluorine-substituted 5-aminoacridines and related compounds. Part I. The monofluoro-5-aminoacridines." By J. H. WILKINSON and I. L. FINAR.

"The formation of some benz-1 : 3-thiazine derivatives by the reduction of benz*iso*thiazoles." By J. S. INGHAM and (the late) E. W. MCCLELLAND.

"Oxidations and dehydrogenations with selenium dioxide." By G. M. BADGER.

HNOLOGY DEPT.

October, 1946

THE CHEMICAL SOCIETY

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SCIENTIFIC MEETINGS DURING DECEMBER.

LONDON.

Thursday, December 5th, 1946, at 7.30 p.m.

Tilden Lecture, **Macromolecules Synthesised by Micro-organisms,** by Professor M. Stacey, D.Sc., Ph.D., F.R.I.C., to be delivered at Burlington House.

Wednesday, December 18th, at 7.30 p.m.

Liversidge Lecture, **Some Problems in the Separation of Isotopes,** by Professor Harold C. Urey, D.Sc., Ph.D., to be delivered at the Royal Institution, Albemarle Street, London, W.1.

EDINBURGH.

Thursday, December 19th, 1946, at 5.30 p.m.

Liversidge Lecture and Official Meeting of the Society. **Some Problems in the Separation of Isotopes,** by Professor Harold C. Urey, D.Sc., Ph.D., to be held in the Biochemistry Lecture Theatre of the University, Teviot Place.

EIRE.

Monday, December 9th, 1946, at 7.30 p.m.

Lecture, **Isotopes,** by Professor Harold C. Urey, D.Sc., Ph.D., to be held in the Department of Chemistry, Science Buildings, University College, Upper Merrion Street, Dublin.

GLASGOW.

Friday, December 6th, 1946, at 6.30 for 7 p.m.

Ramsay Chemical Dinner to be held in Marlborough House.

LEEDS.

Monday, December 16th, 1946, at 6.30 p.m.

Lecture, **Isotopes,** by Professor Harold C. Urey, D.Sc., Ph.D., to be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Wednesday, December 4th, 1946, at 7 p.m.

Scientific Film to be shown at Radiant House, Bold Street.

Friday, December 6th, 1946, at 6.30 p.m.

Lecture, **Atomic Energy,** by Dr. J. P. Baxter, O.B.E., to be held in the Lecture Theatre of the University.

Joint meetings with the local sections of the Royal Institute of Chemistry, Society of Chemical Industry and the British Association of Chemists.

MANCHESTER.

Thursday, December 12th, 1946, at 7 p.m.

Meeting for the reading of original papers. To be held in the Chemistry Department of the University.

NORTHERN IRELAND.

Tuesday, December 10th, 1946, at 8 p.m.

Lecture, **Isotopes,** by Professor Harold C. Urey, D.Sc., Ph.D., to be held in the Great Hall of Queen's University, Belfast.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W.1, on Thursday, October 3rd, 1946, at 7.30 p.m.

The President, PROFESSOR C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held jointly with the Oxford University Alembic Club at the Physical Chemistry Laboratory, South Parks Road, Oxford, on Thursday, 6th June, 1946, and of the Extraordinary General Meeting held at Burlington House, on Thursday, July 25th, 1946, were taken as read and were confirmed, and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: L. A. K. Staveley, A. G. White, J. A. E. Moy, J. E. Cave-Brown-Cave, G. John, Hugh H. Neville, M. T. Clark, J. D. Dunitz, I. M. Dawson, G. H. Watson, C. Chaventre, J. S. Bone, L. A. Mounter, D. W. Turner, H. J. G. Hayman, A. R. Aikman.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

"The Crystal Structure of Pyrene. A Quantitative *X*-ray Investigation." By J. M. Robertson and J. G. White.

"The Redistribution and Desorption of Adsorbed Gases." By R. F. Barrow, C. J. Danby, J. E. Davoud, C. N. Hinshelwood, and L. A. K. Staveley.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W.1, on Thursday, October 17th, 1946, at 7.30 p.m.

PROFESSOR J. W. COOK, D.Sc., F.R.S., Vice-President was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, October 3rd, 1946, were read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: E. N. Jenkins, R. Roberts, D. D. Libman, I. D. Morton, A. Spaull, J. H. Shelton, R. H. Hall, G. Minkoff, L. Crombie.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

"Pyrazine Derivatives. The Structure of Deoxyaspergillic Acid." By R. A. Baxter, G. T. Newbold, and F. S. Spring.

"Researches on Acetylenic Compounds: Acetylenic Hydroxy-acids and their Reactions." By L. J. Haynes, E. R. H. Jones, and M. C. Whiting.

ADDITIONAL SCIENTIFIC MEETING

"A New Notation For Organic Chemistry"

Under the Chairmanship of Dr. G. Roche Lynch, President of the Royal Institute of Chemistry, a joint meeting of the Chemical Society, the Royal Institute of Chemistry, the Society of Chemical Industry and the Bureau of Abstracts, was held on Monday, October 21st, 1946, at 6 p.m., at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1.

The occasion was a lecture delivered by G. Malcolm Dyson, M.A., Ph.D., F.R.I.C., M.I.Chem.E., on "A New Notation for Organic Chemistry." Dr. Dyson described the principles of a new ciphering system which enables the structure of organic substances to be represented in a concise and informative manner. The lecture was attended by a very large and appreciative audience and the vote of thanks proposed by Dr. L. H. Lampitt, President of the Society of Chemical Industry and Chairman of the Bureau of Abstracts, and seconded by Dr. R. P. Linstead, a Vice-President of the Chemical Society, was carried with acclamation.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Hector Robert Adam (Benoni)	Oct. 16th, 1941.	Jan. 1944.
Thomas George David Mills (Blackburn, Aus.)	Jan. 20th, 1944.	Mar. 12th, 1944. (Missing presumed killed)
Charles Emerique Szarvasy (Hungary)	Feb. 16th, 1909.	1942.

ACKNOWLEDGMENTS.

The thanks of the Council have been conveyed to Mr. T. McLachlan for a gift under Deed of Covenant to the publications fund, to the Chemical Council for an interim grant of £1,000 towards the cost of publications, to the Association of British Chemical Manufacturers for a donation under Deed of Covenant, and to Mr. L. C. W. Jenkins for a gift of the Society's publications.

FARADAY LECTURER, 1947.

Sir Robert Robinson, M.A., LL.D., D.Sc., P.R.S., Past President of the Society, has accepted the invitation of Council to deliver the Faraday Lecture next year.

The Faraday Lectureship was founded in 1867 to commemorate the name of Michael Faraday, who was elected a Fellow of the Society on the 4th January, 1842, and was a Vice-President. He died in 1867, and in 1869, Jean Baptiste Andre Dumas delivered the first Faraday Lecture. It is normally delivered every three years and the second lecture was given by Stanislao Cannizzaro in 1872. The list of Faraday Lecturers includes, Hofmann, Wurtz, Helmholtz, Mendeléeff, Rayleigh, Ostwald, Fischer, Richards, Arrhenius, Millikan, Willstätter, Bohr, Debye, Rutherford and Langmuir.

The Council has decided that the 1947 Faraday Lecture by Sir Robert Robinson shall be delivered on July 16th, 1947, the second day of the Society's Centenary Celebrations. Details of time and place will be notified to Fellows in due course.

THE ROYAL INSTITUTE OF CHEMISTRY.

The following letters have been exchanged between the Presidents of the Royal Institute of Chemistry and of the Society:

From Royal Institute of Chemistry to the Chemical Society:—

The President,
The Chemical Society,
Burlington House, W.1. *September* 18*th*, 1946.

Dear Professor Hinshelwood,

The Officers and Council of the Royal Institute of Chemistry have learned with great pleasure and satisfaction of the intention of the Chemical Society to celebrate in July, 1947, the Centenary of its foundation.

As British chemists, we are justly proud of having in our country the oldest chemical society in the

world and one which throughout its existence has taken a leading part in fostering the progressive development of the science. As members of the Institute we are glad to remember that our own organisation owes its origin to the initiative of a group of Fellows of the Chemical Society, and to recognise the advantages that we have since enjoyed through working in association with the Society for the advancement of the science and profession of chemistry for the benefit of the community.

I would assure you that, if there are any directions in which the Institute can help towards ensuring the success of the forthcoming Centenary Celebrations of the Society, my Council will be happy to co-operate in every possible way.

Yours sincerely,
(*signed*) G. ROCHE LYNCH,
President.

From the Chemical Society to the Royal Institute of Chemistry :—

The President,
Royal Institute of Chemistry,
30, *Russell Square,* W.C.1.

September 20th, 1946.

DEAR DR. ROCHE LYNCH,

I have received with very great pleasure your letter of the 18th September, the contents of which I will communicate to the Council of the Chemical Society and which I know they will hear with the very greatest satisfaction.

I will certainly bear in mind your kind offer to co-operate in any way which may contribute to the success of next year's Centenary Celebrations. The numerous common membership of our two bodies will naturally facilitate the necessary liaison.

Your generous words about the contributions of the Chemical Society in the initiation of the Royal Institute and in connexion with chemistry in general are very much appreciated.

Yours sincerely,
(*signed*) C. N. HINSHELWOOD,
President.

MEETING OF COUNCIL.

A meeting of the Council was held on Thursday, October 3rd, 1946.

The report of the Publication Committee (July 15th) was adopted. The report contained the proposal that the lay-out of the *Journal* cover be altered as from January, 1947. One result of the proposed arrangement is that the names of members of the Publication Committee will appear on the cover.

It was unanimously agreed to invite Sir Robert Robinson, D.Sc., P.R.S., to deliver the Faraday Lecture during the Centenary Celebrations of the Society.

The report of the Joint Library Committee (September 25th) was received and in adopting it authority was given for the purchase of a number of books listed in the Recommendations Register. The report also contained information about the recommencement of the publication of certain scientific periodicals, etc., in Germany and Austria.

A letter providing details of the distribution of the cost of maintenance of the Library during 1945 and stating the amounts contributed by The Chemical Society, the Royal Institute of Chemistry, the Society of Chemical Industry, and other contributing Societies was received.

The report of the Finance and General Purposes Committee (July 16th) accepting on behalf of the Society a new scheme for the Superannuation of the Society's staff was confirmed. The proposed scheme has been considered in collaboration with a number of other scientific societies.

The report of the third meeting of the Centenary Celebrations Executive Committee (September 5th) was received and adopted. Arrangements for joint action on a number of matters of common concern to the Celebrations and the Eleventh International Congress of Pure and Applied Chemistry have been made by a Collaboration Committee. A provisional programme for the celebrations, which will include an exhibition, has been prepared and a provisional list of specially invited guests considered.

A letter from the President of the Royal Institute of Chemistry offering the co-operation of the Institute in any directions that might help to ensure the success of the Centenary Celebrations was received with great pleasure and satisfaction. A reply by the President of the Society had been made. (See above.)

An interim report from the Advisory Committee on the Dyson System of Ciphering Chemical Compounds was received and it was decided to take action on the lines recommended in the report by giving

scientific approval to Dr. Dyson's proposals, by asking the International Union of Chemistry to discuss the Dyson system and by drawing the Committee's proposals to the attention of the Chemical Council.

31 Candidates for Fellowship were elected Fellows of the Society.

Certain formal and financial items were also transacted.

ELECTION OF NEW FELLOWS.

The following 31 candidates were elected Fellows of the Chemical Society on the 3rd October, 1946:

Kenneth Bernard Alberman.
Donald Barby.
Mervyn Henry Beeby.
Freshfield Leonard Cann.
Nigel George Clark.
Dennis John Cosgrove.
James McEleney Doherty.
Francesca Mary Garforth (Mrs.).
William Nikola Gates.
William Fred Gerrard.
Geoffrey Frederick Harrison.
Stanley James Hart.
Osman Mohamed Mansour Hilal.
Hsin-Min Huang.
David Philip Jenkins.
Stanlislaw Krauze.
Kariamanikkam Scrinivasa Krishnan.
Herbert Mills.
Margaret Alison Murray.
Roger Parsons.
Francis Joseph Thomas Poole.
Hans Schweitzer.
Dewi Brynmor Scully.
Harold Hugh Smith.
Allan James Barnard Spaull.
Leonard B. Spector.
Eric Theal Stewart.
Gertraud Anna Stranz.
Edward Raymond Ward.
Alma Mary Beryl Whitaker.
George Alexander Wilson.

MEETINGS OUTSIDE LONDON.

EDINBURGH.

" Heavy Chemicals," by Dr. J. P. Baxter, F.R.I.C.

A joint meeting of the Society with the Local Sections of the Royal Institute of Chemistry and Society of Chemical Industry was held at 7.30 p.m. on October 10th, 1946, in the North British Station Hotel, Edinburgh, Professor G. F. Marrian, F.R.S., being in the chair.

Dr. Baxter, Research Director of the General Chemicals Division of I.C.I., Ltd., gave a most interesting lecture in which he dealt with the manufacture of sulphuric acid, hydrochloric acid, chlorine and caustic soda, from the point of view of the manufacturing processes used at the present time, and the uses of some of these substances in new directions. Professor Nisbet and Messrs. MacIntyre, Maclellan, Cameron and Campbell took part in the discussion, and a vote of thanks was moved by Mr. Elliot-Dodds and carried with enthusiasm.

NEWCASTLE AND DURHAM.

A meeting for the reading of original papers was held on Friday, October 11th, at King's College, Newcastle-upon-Tyne, Professor J. W. Cook, a Vice-President of the Society, taking the Chair. The following papers were read and discussed:

(*a*) " The Action of Liquified Ammonia on Ammonium Sulphate," by J. W. R. Rayner. Illustrated by cinematograph film.

(*b*) " The Chemistry of γ-Picoline. Part I," by P. L. Belshaw and G. R. Clemo.

(*c*) " The Hydrogenation of Furfural to Furfuryl Alcohol and Sylvan," by J. G. M. Bremner and R. K. F. Keeyes.

(*e*) " The Formation of the Higher Alcohols in the Methanol Process," by G. R. Clemo and A. Slansky.

The Chairman conveyed the thanks of the meeting to those who had presented the papers and a vote of thanks to the Chairman proposed by Dr. Applebey and seconded by Professor Clemo was carried with acclamation.

SOUTHAMPTON.

" Chemical Aspects of Work on Atomic Fission," by Professor H. J. Emeléus, D.Sc., F.R.S.

A Joint Meeting of the Chemical Society, the Portsmouth and District Chemical Society, and the University College of Southampton Chemical Society was held at the Municipal College, Portsmouth, on Thursday, October 17th, 1946, at 7 p.m. The Chair was taken by Dr. C. G. Lyons, Vice-Principal of the Municipal College. Professor Emeléus, before a very large audience, gave an account of recent work on nuclear fission and the uses of nuclear energy viewed from the standpoint of the chemist, which was greatly appreciated, and a vigorous discussion followed. A vote of thanks, carried with acclamation, was proposed by Mr. C. M. Bere and seconded by Dr. S. H. Harper.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before November 30th, 1946. Such objections will be treated as confidential. The forms are displayed in the Library.*)

***Barry, Peter James Seymour.** British. 53, Waverley Avenue, South Chingford, E.4. Junior Chemist. *Signed by :* H. L. Pearman, E. R. Herz, P. G. Marshall.

***Bassil, Gerald Torkington,** B.Sc. (Manc.). British. Brook Cottage, Liverpool Road, Prescot. Chemist. *Signed by :* J. G. Cockburn, G. W. Groves, J. Southwood.

Battersby, Albert, B.Sc.Hons. (Lond.). British. 65, Cecil Park, Pinner. Assistant Editor, Society of Chemical Industry. *Signed by :* T. W. Jones, F. P. Dunn, Wm. Wardlaw.

***Bell, David Roland Wagstaffe,** Inter.B.Sc. (Lond.). British. 8, Holyrood Road, St. James, Northampton. Student. *Signed by :* W. Siddall, J. A. Baker, D. Plews.

Bennett, John Atkinson, Ph.C. British. c/o Genic Ltd., Milford, Derby. Assistant Works Manager. *Signed by :* John H. Hunt, M. H. Tankard, L. I. Woolf.

***Butt, Leonard Thomas,** B.Sc. (Lond.), A.R.I.C. British. 20, Lewis Avenue, Blackley, Manchester 9. Analytical research chemist. *Signed by :* Norman Strafford, Joe H. Coucill, D. Myles.

***Carter, David George,** B.Sc. (Lond.). British. Bcrrynarbor, Mottingham Lane, Mottingham, S.E.9. Assistant Chemist, East Africa Industrial Management Board, P.O. Box 1862, Nairobi, Kenya. *Signed by :* E. M. Gutmann, R. L. Denyer, R. J. Harris.

Crosland, Eric Bentley, M.Sc. (Leeds), A.R.I.C., Diploma in Dyeing (Leeds). British. Birch Vale Printworks, Birch Vale, nr. Stockport. Works Chemist. *Signed by :* Joseph E. Faraday, W. Shaw, J. S. Heaton.

***Davies, John Tasman,** M.Sc.Hons. (N.Z.). British. 18, Torrington Square, W.C. 1. Research Chemist in Davy Faraday Laboratory. *Signed by :* Eric K. Rideal, Kathleen Lonsdale, J. W. H. Oldham.

Day, James Eric, M.P.S. British. 16, Murchison Road, Hoddesdon. Technical Adviser to Messrs. Sharp and Dohme, Ltd. (Manufacturing Chemists), Hoddeston. *Signed by :* W. E. Willmott, D. Ridge, H. Lambourne.

Dryden, Robert Pickeman, B.Sc. (St. Andrews). British. 23, Connaught Road, Teddington. Research Chemist for Barry Ostlere and Shepherd, Kirkcaldy. At present carrying out research at Paint Research Station, Teddington. *Signed by :* D. B. Powell, G. L. Holbrow, H. K. Dean.

Fletcher, John Molyneux, M.A.(Oxon), Ph.D. (California), late Commonwealth Fund Fellow. British. c/o J. and P. Coates, Ltd., 155, St. Vincent Street, Glasgow, C. 2. Head of Research, J. and P. Coates, Ltd. *Signed by :* Alfred Egerton, F. P. Dunn, Julian M. Leonard.

Garside, James Eric, Ph.D. (Lond.), M.Sc.Tech. (Manc.), A.R.I.C. British. Northampton Polytechnic, St. John's Street, E.C. 1. Head of the Department of Applied Chemistry. *Signed by :* J. R. I. Hepburn, J. Kenyon, Ernest A. Rudge.

***Garwood, Mavis Pauline,** B.Sc. (Lond.). British. St. Catherine's, Theydon Park Road, Theydon Bois, Essex. Research Assistant. *Signed by :* H. Holness, B. Dudley Sully, M. F. Carroll.

Geake, Frank Henry, M.Sc. (Bristol), A.R.I.C. British. c/o Customs Department, Singapore, Malaya. Colonial Chemical Service. *Signed by :* H. J. T. Ellingham, R. Leslie Collett, G. Roche-Lynch.

Glazer, Joseph, B.Sc. (Lond.). British. 186b, Mile End Road, E. 1. Research Assistant at Bedford College, N. W. 1. *Signed by :* D. M. Hall, Mary S. Lesslie, M. M. Jamison.

***Gorringe, Brian Stanley,** B.Sc. (Lond.), A.R.C.S., A.R.I.C. British. 4, Hatherley Crescent, Sidcup. Research Chemist. *Signed by :* Leslie O. Butler, P. A. Robins, H. B. Henbest.

Gyani, Bishwanath Prasad, M.Sc. and Ph.D. (Patna). Indian. Chemistry Department, University College, W.C. 1. Research Student. *Signed by :* S. Sugden, Henry Terrey, L. F. Gilbert.

Haddow, Alexander, M.B., Ch.B., M.D., D.Sc., Ph.D. (Edin.). British. Chester Beatty Research Institute, Royal Cancer Hospital (Free), Fulham Road, London, S.W. 3. Professor of Experimental Pathology, University of London. Director, Chester Beatty Research Institute. *Signed by :* G. A. R. Kon, C. W. Shoppee, Edna M. F. Roe.

***Hills, Graham John,** B.Sc.Hons. (Lond.). English. 32, Westcliff Drive, Leigh-on-Sea, Essex. Research Student and Demonstrator. *Signed by :* D. J. G. Ives, F. Barrow, R. W. Pittman.

Jackman, George William Grahame. British. 8, Ingram Way, Greenford. Chemist at Evan Williams Co., Ltd., Perivale. *Signed by :* W. M. Seaber, R. A. Rabnott, Percy Edgerton.

Janz, George John. B.Sc.Hons. (Manitoba), M.A. and Ph.D. (Toronto). Canadian. Chemistry Department, University College, Gower Street, W.C. 1. Imperial Chemical Industries Research Fellow in Chemistry. *Signed by :* C. K. Ingold, C. A. Bunton, J. N. E. Day.

Jelinek, Bohdan, D.Sc. and M.D. (Brno). Czechoslovak. Ustav Kvasne Chemie, Praha XIX-1905, Czechoslovakia. Professor of Chemistry of Fermentation in Prague University. *Signed by :* R. H. Hopkins. M. Stacey, L. L. Bircumshaw.

***Lee, Neville Douglas.** British. 89 Stanhope Drive, Horsforth. Third Year Honours Colour Chemistry Student at Leeds University. *Signed by :* Frederick M. Rowe, F. R. Goss, W. A. Wightman.

Lilley, Harold Samuel, B.Sc.Hons. (Birm.). British. Savernake, Upton Court Road, Slough. Research Chemist, Imperial Chemical Industries, Ltd. *Signed by :* Arthur K. Mills, H. Bassett, G. H. Cheesman.

Low, John Alexander, M.Sc. (Lond.), A.M.I.Chem.E. British. 32, Manchester Street, W. 1. Works Manager. *Signed by :* J. R. Booer, F. Bergel, A. Cohen.

***McAllister, Ronald Andrew.** British. 150 Hill Street, Charing Cross, Glasgow. Senior Technician, Bio-chemical Laboratory, Glasgow Royal Infirmary. *Signed by :* James D. Loudon, John Robertson, A. B. Crawford.

***McNaughton, Francis Finlay,** B.Sc. (Edin.). British. 134, Westbourne Avenue, Hull. Works Chemist, British Cod Liver Oils (Hull and Grimsby), Ltd., Hull. *Signed by :* E. G. V. Percival, Neil Campbell, Christina C. Miller.

***Mayhew, Geoffrey,** B.Sc.Hons. (Sheffield). English. 77, Park Street, Wombwell. Research student in the University of Sheffield. *Signed by :* R. D. Haworth, Neville Smith, Brynmor Jones.

***Nechvatal, Antony,** B.Sc.Hons. (Lond.). British. 47, Templar's Crescent, Finchley, N. 3. Research Student. *Signed by :* W. Gerrard, W. A. Smeaton, R. W. West.

*Peal, **William John,** B.Sc.Hons. (Lond.). British. 25, Canterbury Avenue, Ilford. Research student at King's College. *Signed by :* V. Gold, John Honeyman, J. C. D. Brand.

Pilnik, Walter, Diploma in Engineering Chemistry and Doctor of Technical Science (Swiss Federal Institute of Technology). Swiss. London School of Tropical Medicine and Hygiene, Keppel Street, W.C. 1. Research work in the Division of Biochemistry. *Signed by :* H. Raistrick, J. H. Birkinshaw, S. E. Michael.

Poklewski-Koziell, Witold Zenon. Degree in Chemical Engineering, Warsaw Technical University. Polish. 11, Palace Court, W. 2. Officer, Polish Army in the United Kingdom. *Signed by :* E. F. MacTaggart, Alex D. Kenny L. M. Mundy.

Riddiford, Austin Charles. British. 82, Wash Lane, South Yardley, Birmingham, 25. Honours Chemistry Student, Birmingham University. *Signed by :* L. L. Bircumshaw, S. R. Carter, F. W. Pinkard.

*Robertson, **William,** B.A.(Cantab.). Canadian. St. James' Vicarage, Harlestone Road, Northampton. Demonstrator in Chemistry at the Royal Veterinary College. *Signed by :* D. E. Kidder, D. Graham Harvey, E. G. C. Clarke.

Slaap, Hendrik Egbert. Dutch. 171, Horsenden Lane South, Greenford. Works Manager. *Signed by :* C. J. Virden, J. W. Tullo, J. Todd.

*Tatchell, **Austin Robert,** B.Sc.Hons. (Lond.). British. 28, Budoch Drive, Goodmayes. Research Student, King's College. *Signed by :* D. H. Hey, John Honeyman, D. W. G. Style.

*Taylor, **David Alexander Harrison.** British. Keble College, Oxford. Student, Honours School of Chemistry, Oxford University. *Signed by :* G. D. Parkes, Harry Irving, S. G. P. Plant.

*Theobald, **Raymond Stanley,** B.Sc.Hons. (Lond.). British. 28, Bridgwater Drive, Westcliff-on-Sea. Research Student in Organic Chemistry at University College of the South-West of England. *Signed by :* H. T. S. Britton, K. Schofield, T. Swain.

Thompson, Cyril. British. Messrs. Guthrie and Adams & Co., 4 Leighton Lane, Leeds, 1. Chief Chemist, Messrs. Guthrie and Adams, Foundry and Metallurgical Consultants. *Signed by :* L. M. Stockdale, J. Rushworth, Harold Piper.

Tilak, Bal Dattatraya, B.Sc.Tech. and Ph.D. (Bombay). Indian. Department of Chemical Technology, Matunga, Bombay, 19, India. Research Assistant. *Signed by :* O. Mancera, Ronald P. Bell, H. R. Bentley.

Treadgold, Marjorie, B.Sc.Hons. and M.Sc. (Birm.). British. 11a, Cleveland Road, Ealing, W. 13. Industrial Chemist. *Signed by :* C. J. Virden, J. W. Tullo, J. Todd.

Tyrrell, Victor Daniel, M.A. and B.Sc.Hons. (Dublin). Irish. 15, Shanid Road, Harold's Cross, Dublin. Assistant Chemist, W. D. and H. O. Wills, Dublin. *Signed by :* Eric T. Murdock, J. I. M. Jones, Thomas McLachlan.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Chardonnens, Louis, Dr.Sc. (Fribourg). Swiss. Institut de Chimie, Université de Fribourg, Switzerland. Professor of Chemistry. *Signed by :* P. Karrer.

Daleff, Dimitre Ivanoff. Chemistry graduate of the Sofia University. Bulgarian. Persenk 31, Sofia, Bulgaria. Professor of Pharmaceutical Chemistry at Sofia University. *Signed by :* Leslie H. Lampitt.

* Reduced Annual Subscription.

PAPERS RECEIVED

List of papers received between September 18th, 1946, and October 17th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal.*)

"The alkaline fission of some β-substituted dimethylethylsulphonium iodides." By C. W. Crane and H. N. Rydon.

"Experiments with Grignard solutions. Part III. Action of Grignard solutions on thermochromic *spiro*pyrans." By A. Schönberg, A. Mustafa, and (in part) (Miss) W. Asker.

"Cinnolines. Part XII. 4-Methylcinnolines." By C. M. Atkinson and J. C. E. Simpson.

"Reactions of alkyl*iso*formanilides. Part III. With phenols." By E. B. Knott.

"The effect of temperature on the proportions of isomers formed in the mononitration of toluene." By W. W. Jones and M. Russell.

"Synthetic antimalarials. Part XVII. Some arylaminoaminoalkylaminoquinoline derivatives." By F. H. S. Curd, C. G. Raison, and F. L. Rose.

"Experiments with diazomethane and its derivatives. Part XIII Action of diazomethane on hydroxyanils." By A. Schönberg, A. Mustafa, and (in part) M. K. Hilmy.

"Synthetic antimalarials. Part XVIII. 3-Dialkylaminoalkylaminodiphenylamines." By F. G. Mann and J. W. Porter.

"Reduction of αβ-unsaturated carbonyl compounds by sodium butoxide." By Ch. Weizmann, M. Sulzbacher, and E. Bergmann.

"α-*cyclo*Hexyl-β-propylacrylic acid from *cyclo*hexanol." By Ch. Weizmann, M. Sulzbacher, and E. Bergmann.

"Synthetic antimalarials. Part XIX. Dialkylaminoalkylaminodiphenylguanidines." By F. G. Mann, F. T. Naylor, and J. W. G. Porter.

"Derivatives of sulphanilylguanidine: preparation for pharmacological study." By E. HAWORTH, F. L. ROSE, and F. H. SLINGER.

"The preparation and some reactions of 4-nitrosothioanisole." By H. H. HODGSON, D. D. R. SIBBALD, and E. W. SMITH.

"The configuration of naturally occurring mixed glycerides. Part III. The configuration of the major component glycerides of piqui-a fruit coat fat." By M. L. MEARA.

"A new reaction of thiocyanic esters." By E. HOGGARTH and W. A. SEXTON.

"3(β) : 6(β)-Dihydroxycholanic acid, an epimeride of hyodeoxycholic acid." By J. S. MOFFATT.

"Compounds related to penicillic acid. Part II. Synthesis of dihydropenicillic acid." By R. A. RAPHAEL.

"Production of antibiotics by fungi. Part III. Javanicin. An antibacterial pigment from *Fusarium javanicum*." By H. R. V. ARNSTEIN and A. H. COOK.

"The reaction of 1-nitropropane with formaldehyde and ammonia." By E. L. HIRST, J. K. N. JONES, (MRS.) S. MINAHAN, F. W. OCHYŃSKI, A. T. THOMAS, and T. URBAŃSKI.

"Synthetic antimalarials. Part XX. Cinnolines. Part XIII. Synthesis and antimalarial action of 4-basicalkylaminocinnolines." By J. R. KENEFORD and J. C. E. SIMPSON.

"Some catalysed gas-phase reactions of aromatic hydrocarbons. Part I. The interaction of benzene with dimethyl ether." By A. H. GIVEN and D. LL. HAMMICK.

"Oxidation of $[1:2:2]^{(3:6)}$-bi*cyclo*heptene-1 (Norbornylene)." By S. F. BIRCH, W. J. OLDHAM, and E. A. JOHNSON.

"The quantitative estimation of galactose, mannose, arabinose, and rhamnose." By E. L. HIRST, J. K. N. JONES, and E. A. WOODS.

"On the formulating of the substitution of organic chemical acids (O, S, Te compounds)." By M. ROLLMANN.

"Polycyclic aromatic hydrocarbons. Part XXXII. 2′-Methoxy-1 : 2-benzanthracene and 2′-methoxy-9 : 10-dimethyl-1 : 2-benzanthracene." By G. M. BADGER.

"New potential chemotherapeutic agents. Part VII. Experiments on the synthesis of 8-aminopurines." By F. E. KING and T. J. KING.

"Curare alkaloids. Part VI. Alkaloids from *chondrodendron tomentosum R.* and *P.*" By H. KING.

"The Friedel–Crafts reaction in the carbazole series. Part III." By S. G. P. PLANT and (MRS.) J. F. POWELL.

"The constituents of natural phenolic resins. Part XXI. The structure of di*iso*eugenol." By N. J. CARTWRIGHT and R. D. HAWORTH.

"Studies on the alkylation of aromatic amines. Part I. The use of aluminium alkoxides as alkylating agents." By J. C. EARL and N. G. HILLS.

Technology

THE CHEMICAL SOCIETY

SCIENTIFIC MEETINGS DURING JANUARY

LONDON.

Thursday, January 9th, 1947, at 7.30 p.m.

The following papers will be read and discussed :

" Toxic fluorophosphonates and related compounds." By B. C. Saunders.*
" Some Aspects of the Oxidation and the Dimerisation of Propenylphenols." By N. J. Cartwright and R. D. Haworth.*

ABERDEEN.

Friday, January 24th, 1947, at 7.30 p.m.

Lecture, **Recent Advances in Our Knowledge of the Metabolism of Proteins and Amino Acids,** by Dr. D. P. Cuthbertson, to be held in the Chemistry Department, Marischal College.

CAMBRIDGE.

Friday, January 17th, 1947, at 8.30 p.m.

Tilden Lecture, **Macromolecules Synthesised by Micro-organisms,** by Professor M. Stacey, D.Sc., Ph.D., F.R.I.C., to be held in the University Chemical Laboratory.

LIVERPOOL.

Thursday, January 23rd, 1947, at 5 p.m.

Lecture, **Metabolic Cycles,** by Professor H. A. Krebs, M.A., M.D., to be held in the Chemistry Lecture Theatre of the University.

MANCHESTER.

Thursday, January 9th, 1947, at 7.30 p.m.

Lecture, **On Molecular Interaction at Oil/Water Interfaces,** by Dr. J. H. Schulman, Dip.Ing.Chem.

Joint meeting with the Local Section of the Royal Institute of Chemistry to be held in the Chemistry Department of the University.

SHEFFIELD.

Thursday, January 30th, 1947, at 5.30 p.m.

Lecture, **Some Relationships between the Structure and Properties of Natural and Synthetic Fibres,** by Professor J. B. Speakman, D.Sc., F.R.I.C.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

ST. ANDREWS AND DUNDEE.

Friday, January 31st, 1947, at 5 p.m.

Lecture, **Modern Trends in the Chemical Utilisation of Wood,** by Dr. W. G. Campbell, to be held in the Chemistry Department, University College, Dundee.

* To read paper.

SOUTH WALES.

Thursday, January 23rd, 1947, at 6 p.m.

Lecture, **The Absorption of Light,** by Mr. E. J. Bowen, M.A., F.R.S.

Joint meeting with the University College of Swansea Chemical Society to be held in the Chemistry Lecture Theatre of the University College, Swansea.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, November 7th, 1946, at 7.30 p.m.

The President, PROFESSOR C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair and welcomed the Visitors present.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, October 17th, 1946, were read and were confirmed and signed.

PROFESSOR P. F. FRANKLAND.

The meeting stood whilst Professor W. Wardlaw, Honorary Secretary, read the following resolution :

" The President, Council and Fellows of the Chemical Society learned with profound regret at their meeting today, of the death on October 28th, 1946, of their eminent past President, Professor Percy F. Frankland. They desire to express their high appreciation of his distinguished original contributions to the science of chemistry, particularly in the field of optical activity and stereochemistry, and of the service he rendered to the community in the part he played in placing the study of water supply problems on a scientific basis.

" They also record their indebtedness to him for his devotion to the affairs of the Society. He first became a Member of Council in 1887, Vice-President in 1902 and President during 1911—1913. The science of chemistry is poorer by his death and the Council mourn the loss of a revered colleague.

" The Council convey their deepest sympathy to Edward Percy Frankland in his great sorrow, not only in the death of his father, but also of his mother, whose death was reported only a few weeks ago."

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society : S. J. Hart, D. Barby, G. Stranz, M. Berlak, G. M. Pam, J. D. Jones, G. G. S. Dutton, R. M. Sales, A. J. James, D. W. Clayton, W. G. H. Edwards, M. Pianka, O. C. Musgrave, C. A. Bunton, I. G. Holden, D. H. Kohn.

DISCUSSION.

The PRESIDENT called on Dr. G. M. Bennett to open the Discussion on " Nitration," and the following contributed :

Mr. J. C. D. Brand.
Professor C. K. Ingold.
Dr. D. J. Millen.
Professor Gwyn Williams.
Professor E. D. Hughes.
Dr. R. I. Reed.

A general discussion followed in which Dr. J. Chédin, Dr. M. J. S. Dewar, Professor J. C. Earl, Dr. R. P. Linstead and Dr. A. L. Lovecy took part.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W. 1, on Thursday, November 21st, 1946, at 7.30 p.m.

The President, PROFESSOR C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, November 7th, 1946, were read and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: L. V. Lecomber, M. Corner, R. D. Brearley, D. M. Page, P. D. H. Holman, H. M. Lowe, J. L. Bailey.

SCIENTIFIC COMMUNICATIONS.

The following papers were read and discussed:

"The kinetics of halogen addition to unsaturated compounds. Part XII. Iodine catalysis of chlorine and bromine addition to ethyl cinnamate." By H. D. C. Waters, A. R. Caverhill, and P. W. Robertson.

"Evidence for the homolytic bond fission of 'Positive halogen' compounds." By A. Robertson and W. A. Waters.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Joseph John Blackie (Edinburgh)	June 18th, 1925.	Oct. 30th, 1946.
Clarence Barnes Collis (Sunbury-on-Thames)	Aug. 17th, 1944.	Sept. 20th, 1946.
Percy Faraday Frankland (Loch Awe) (Resolution of Council above)	Dec. 2nd, 1880.	Oct. 23rd, 1946.
Cornelius Durham Garbutt (Liverpool)	Feb. 15th, 1912.	Aug. 10th, 1946.
John Grant Gordon (W.C. 1)	Dec. 6th, 1928.	Oct. 18th, 1946.
Philip George Wickens (Maidstone)	May 7th, 1936.	Oct. 23rd, 1946.

ANNUAL SUBSCRIPTION 1947.

Fellows will have already received the notice regarding the payment of the annual subscription for 1947, and the order form for publications. In order to expedite the work of sorting requests for publications, Fellows are earnestly requested to return the publications form and to send their subscriptions either to Messrs. Coutts and Company, 440, Strand, London, W.C. 2, or, in the case of Fellows paying a joint subscription, to the Conjoint Chemical Office, 9/10, Savile Row, W. 1, as soon as possible.

MEETING OF COUNCIL.

A meeting of Council was held on Thursday, November 7th, 1946.

The PRESIDENT welcomed Dr. F. E. King to the meeting. Dr. King was co-opted a member of Council until the next Annual General Meeting on the retirement of Dr. R. J. W. Le Fèvre, who had taken up an appointment in Australia.

It was agreed to convey congratulations to Dr. T. W. J. Taylor, C.B.E. (Fellow) on his appointment as Principal-designate to the newly established West Indian University College, and to Mr. E. S. Whitworth (Fellow), who was awarded the British Empire Medal (Military Division) in the last Birthday Honours List.

The Reports of the Publication Committee (October 3rd and November 7th) were adopted including the proposal for a broader margin in the *Journal* and the amendment to paragraph 5 of the Notices to Authors of Papers appearing in the *Journal*.

A letter from Sir Robert Robinson, P.R.S., accepting the Council's invitation to deliver the Faraday Lecture during the Centenary Celebrations of the Society in 1947, was received with pleasure.

A gift under Deed of Covenant from Genatosan, Ltd., contributions from the Royal Institute of Chemistry and the Society of Chemical Industry towards the maintenance costs of the Library for 1945 in accordance with the scale recently submitted by the Chemical Council, and a contribution to the Library for 1946 from the Society of Dyers & Colourists were noted and acknowledgment made.

The Report of the Finance and General Purposes Committee (October 21st) was adopted. The Report dealt with various investments of the Society due for redemption and re-investment; a Centenary Appeal for a capital sum, the interest from which would be mainly devoted to providing the expenses of Chemists from overseas and sent overseas to lecture, etc., and which is to be made to British chemical industrial firms, to Fellows and others; nomination of representatives of the Society on other bodies for the year 1947.

A letter from Lord McGowan, Chairman of Imperial Chemical Industries, Ltd., to the President, appreciating the leading part played by the Chemical Society in promoting chemistry in the country and offering hospitality on the occasion of the Centenary, together with the President's reply and acceptance of this invitation, was received with very great pleasure.

The resignations of Professor W. Cocker, Mr. R. P. Bell, and Dr. S. H. Harper as Local Representatives for Newcastle and Durham, Oxford, and Southampton, respectively were accepted with regret and Drs. P. L. Robinson, F. E. King, and K. R. Webb, respectively, have been invited to take up these appointments.

The Tenth Report of the Chemical Council was received.

It was agreed that the Society should give scientific support to the re-establishment of the Gmelin Handbook without incurring any financial responsibility.

Messages of thanks from the Société de Chimie Industrielle for good wishes sent by the Society on the occasion of the Paris congress, and of goodwill from the Chemical Society of Peru were read.

36 Candidates for Fellowship were elected Fellows of the Society.

Certain formal and financial items were also transacted.

ELECTION OF NEW FELLOWS.

The following 36 candidates were elected Fellows of the Society on November 7th, 1946:

Philip Basil Baker.
William Austin Boggust.
Arthur Bracken.
Boris Peter Brand.
Louis Theodore Le Gay Burley.
Brian Evans Conway.
Ruy Gustavo Couciers da Costa.
Eva Barbara Cumming.
Leon Damas.
Barbara Augusta Edmed.
Robert Thomas Fowler.
Francesco Giordani.
Victor Grifols.
Kenneth Arnold Hassall.
George Heberlein.
Alan Keith Hobbs.
Peter Dennis Hocking Holman.
Graham Willis Holton.
Bimal Das Jain.
Philip Aldwyn Jenkins.
Karl Bryce Warner Jones.
Robert Albert Conrad Kuenzli.
Leslie Vincent Lecomber.
Patrick Mamalis.
Douglas James Millen.
Edward Norman Morgan.
Andrew Nicholson.
James Robert Lewis Nuttall.
Delia Margaret Page.
Harold Anthony Rees.
Joan Anne Reynolds.
Viliam Rieder.
John Austin Salter.
Tom Cartwright Shaw.
Geoffrey Swain.
Wilson Shaw Waring.

ANNUAL REPORTS FOR 1945.

The following is the list of contents of the "Annual Reports on the Progress of Chemistry 1945," which, it is expected, will be published at the end of January, 1947.

GENERAL AND PHYSICAL CHEMISTRY.

1. Recent Advances in Infra-red Spectroscopy. By H. W. Thompson.
2. Friction and Lubrication. By F. P. Bowden and D. Tabor.
3. Crystallography. By J. M. Robertson.

INORGANIC CHEMISTRY. By A. J. E. Welch.

1. Introduction and General.
2. Valency and the Constitution of Some Inorganic Molecules.
3. Some Aspects of the Chemistry of Complex Compounds.
4. Organosilicon Compounds: Volatile Halides and Their Derivatives.
5. Some Heterogeneous Equilibria.
6. "Sub-compounds" and Inorganic Free Radicals.

ORGANIC CHEMISTRY.

1. Introduction.
2. General Methods. By R. A. Baxter and F. S. Spring.
3. Ultra-violet Light Absorption and the Structure of Organic Compounds. By E. A. Braude.
4. Mechanisms of Oxidation. By W. A. Waters.
5. Furans. By L. N. Owen.
6. Chemistry of Adenine Nucleotide Coenzymes. By B. Lythgoe.
7. Pyrazine and its Derivatives. By G. T. Newbold and F. S. Spring.

BIOCHEMISTRY.

1. The Integration of the Intermediary Metabolism of Carbohydrates, Fats, and Amino-Acids. By F. Dickens.
2. Biochemistry of the Adrenal Cortex. By F. G. Young.
3. Specific Blood-group Substances. By W. T. J. Morgan.
4. Hyaluronic Acid and Hyaluronidase. By W. T. J. Morgan.
5. Cytochemistry. By J. N. Davidson.

ANALYTICAL CHEMISTRY.

1. The Protein Amino-acids. By E. G. Kellett.
2. Organic Reagents in Inorganic Analysis. By J. G. N. Gaskin.

ELECTRON JUBILEE CELEBRATIONS.

Preliminary notice has been received from the Institute of Physics that the fiftieth anniversary celebrations of the discovery of the electron by Sir Joseph Thomson, O.M., will take place between 25th and 26th September, 1947, in London. The Institute and the Physical Society are jointly arranging a series of meetings and other functions, including a special exhibition. Further details will be announced.

BRITISH STANDARDS INSTITUTION.

The following drafts of British Standard Specifications have been received for technical comment:

CH(FCC) 7320 Draft revised B.S.506 Methyl Alcohol (Methanol).
CH(FCC) 7321 Draft revised B.S.663 Ethyl Lactate.
CH(FCC) 7322 Draft revised B.S.552 Amyl Acetate.

These have been placed in the Library and Fellows wishing to make technical comments are requested to do so before January 29th, 1947, to the British Standards Institution, 28, Victoria Street, Westminster, S.W. 1.

MEETINGS OUTSIDE LONDON

ABERDEEN.

" Microscopy with Electrons and *X*-rays," by Professor G. D. Preston, M.A., Sc.D., F.Inst.P.

A joint meeting of the Society with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held at Marischal College, Aberdeen, on October 25th, 1946.

Professor Preston indicated the position of the wavelengths of light and of *X*-rays, of bacteria, viruses, atoms, and electrons on the scale of magnitude. He traced the limitations of magnification by optical means, described the principles of the electron microscope, and illustrated by many lantern slides how our knowledge of the structure of small objects was being increased by electron microscopy. Finally, he showed that interpretation of the diffraction patterns from *X*-rays gives a method which literally enables us to see the atoms themselves.

EDINBURGH.

" Some Observations on Biological Oxidation and Reduction," by Dr. D. J. Bell, M.A., F.R.I.C.

A joint meeting of the Society with the Edinburgh University Chemical Society and the Local Sections of the Royal Institute of Chemistry and Society of Chemical Industry was held at 7 p.m. on October 29th, 1946, in the Biochemistry Lecture Theatre of the University, with Mr. R. A. Laidlaw in the Chair. Dr. D. J. Bell gave a vivid and fascinating account of the present state of our knowledge of Biological Oxidation and Reduction, in which he dealt with alcoholic fermentation and animal systems and emphasised the important rôle played by the type of linking of the phosphoric acid residues in the various cycles. A lively discussion followed and a vote of thanks to the Lecturer, proposed by Mr. T. R. R. MacDonald, was carried with enthusiasm.

GLASGOW.

Lecture by Dr. H. J. T. Ellingham, F.R.I.C.

A joint meeting with the Alchemists' Club and the Andersonian Chemical Society was held on October 25th, 1946 at 4 p.m. in the Royal Technical College, Glasgow.

Owing to the late arrival of Professor Morton, due to travelling difficulties, the original arrangements for the meeting were cancelled, and Dr. H. J. T. Ellingham addressed the largely student audience on

the organised services provided for the chemist by the three Chartered Chemical Societies. Dr. Ellingham's address was very warmly appreciated.

Lecture, " Electrolysis as an Industrial Process," by Dr. H. J. T. Ellingham, F.R.I.C.

A joint meeting with the local sections of the Royal Institute of Chemistry and the Society of Chemical Industry held on October 25th, 1946, at 7.15 p.m. in the Royal Technical College, Glasgow.

Beginning with a description of some typical electrode reactions, including reference to secondary reactions, Dr. Ellingham proceeded to classify various industrial applications. Considerations of economy and current efficiency were then developed in relation to plant design and its adaptation to particular requirements. The factors of economic importance in the consumption of electrical energy were evaluated and a description was given of test methods used to determine optimum running conditions. Among the advantages of the process, emphasis was laid on the precision of control available and its relative simplicity as a problem of chemical engineering. The lecture was illustrated by a series of lantern slides and, after a well-sustained discussion, Mr. A. Jamieson expressed the thanks of an appreciative audience.

Lecture, " Atomic Energy," by Professor P. I. Dee, C.B.E., F.R.S.

The Chemical Society participated in a joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry, held on November 1st, 1946, at 7.15 p.m. in the Royal Technical College, Glasgow, Mr. W. J. Skilling being in the Chair. Professor Dee gave a stimulating account of the principles on which the release of atomic energy is based. After discussion, a vote of thanks was accorded with enthusiasm.

Lecture, " Melting and Other Phase Changes," by Professor A. R. Ubbelohde, M.A., D.Sc., F.R.I.C.

A joint meeting of the Society with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held in the University, Glasgow, on November 15th, 1946, at 7.15 p.m. From the Chair, Professor J. M. Robertson, referred to the loss sustained by the Society through the recent death of Professor P. F. Frankland, C.B.E., F.R.S.

Professor Ubbelohde gave a most stimulating account of experimental evidence relating to the changes which occur at or near the melting point. After a vigorous discussion a vote of thanks, moved by Dr. J. Bell, was carried with acclamation.

LIVERPOOL.

Lecture, " Some Aspects of Infra-red Measurements," by Dr. H. W. Thompson, M.A., F.R.S.

A joint meeting with the local sections of the Royal Institute of Chemistry, the Society of Chemical Industry, the British Association of Chemists, and the University Chemical Society was held on November 13th, 1946, at Liverpool University, Professor W. C. McC. Lewis being in the Chair.

The Lecturer dealt at length with the methods of infra-red spectroscopy with particular reference to the enormous advances, made during the last six years, which had enabled the technique to be applied with rapidity even to molecules of polymeric substances. A vote of thanks, carried with acclamation, was proposed by Mr. McDowell and seconded by Mr. Mills.

SHEFFIELD.

Two Lectures, " Principles of Polarography," and " The Applications of Polarographic Analysis," by Professor J. Heyrovsky, D.Sc., Ph.D.

A joint meeting of the Society with the local section of the Royal Institute of Chemistry, the Sheffield Metallurgical Association and the University Chemical Society was held for the first time on October 17th, 1946, at the University.

At the afternoon session, with Professor R. D. Haworth, F.R.S., in the Chair, the Vice-Chancellor (Dr. J. I. O. Masson, F.R.S.) extended a very cordial welcome to Professor Heyrovsky to the University and expressed his own personal pleasure at meeting him again in this country. After thanking the Vice-Chancellor and the large audience for their warm welcome, Professor Heyrovsky discussed the " Principles of Polarography." The discourse, which was of great interest to the many enthusiasts in the audience, was followed by a lively discussion.

After the meeting had adjourned for tea, the Chair was taken by Dr. R. A. Mott, and Professor Heyrovsky gave an equally stimulating account of " The Applications of Polarographic Analysis," reviewing much recent unpublished work. The keen discussion which followed was ended by Dr. Mott calling on Mr. E. J. Vaughan, M.Sc., of the Admiralty Bragg Laboratories, to propose a vote of thanks to the

lecturer. This was seconded by Mr. J. Haslam of Imperial Chemical Industries, Ltd., and carried with acclamation.

Lecture, " Synthetic Approach to the Nucleotides," by Professor A. R. Todd, D.Sc., F.R.S.

A Joint Meeting of the Society and the University Chemical Society was held in the Chemistry Lecture Theatre of the University on October 24th, at 5.30 p.m. with Professor R. D. Haworth, F.R.S., in the Chair. Professor Todd gave a lucid and fascinating account of the recent synthetic work in the field of the nucleotides which was highly appreciated by a large audience. An interesting discussion followed, and a vote of thanks proposed by Professor Krebs and seconded by Mr. Major was carried with acclamation.

SOUTH WALES.

Lecture, " Homolytic Reactions," by Professor D. H. Hey, D.Sc., Ph.D., F.R.I.C.

A joint meeting of the Society with the University College of Swansea Chemical Society was held at 6 p.m. on November 1st, 1946, in the Chemistry Lecture Theatre of the College.

Professor J. E. Coates, Local Representative, took the Chair, and welcomed Professor D. H. Hey as an old student of the College and former President of the Students' Chemical Society. Professor Hey delivered a lecture on " Homolytic Reactions "—*i.e.*, reactions of molecules with atoms or free radicals involving the symmetrical fission of the electron pair of a covalent bond. Beginning with the early work of Gomberg, he discussed many examples of this class of reaction and the evidence for their homolytic nature, such as true unimolecular character with rate constant substantially independent of the nature of the solvent, and showed that many important reactions in solution have proved to be radical or atom chain processes involving homolysis. The lecturer discussed for example the decomposition of diazo-compounds, the reaction of nitrosoacylarylamines and of arylazotriarylmethanes, reactions involving benzoyl peroxide and sulphuryl chloride, the polymerisation of styrene, and Grignard reactions—*e.g.*, the synthesis of hexoestrol.

A discussion followed, and a vote of thanks to Professor Hey for his lecture on a subject to which he has himself made such far-reaching contributions was proposed by Dr. L. E. Hinkel, seconded by Mr. J. B. Lewis, and carried with enthusiasm.

LIST OF APPLICATIONS FOR FELLOWSHIP

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before December 31st, 1946. Such objections will be treated as confidential. The forms are displayed in the Library.*)

***Aitken, Roxburgh Richmond,** B.Sc.Hons. (Glas.). British. 48, Urchard Street, Galston. Research Student, Glasgow University. *Signed by :* James D. Loudon, T. S. Stevens, G. M. Badger.

***Alt, Gerhard Horst.** German. 84, Broadfields Avenue, Edgware. Laboratory Assistant. *Signed by :* R. E. Bowman, R. W. Pittman, D. J. G. Ives.

Arthur, John Rex, M.A. and B.Sc.(Oxon), A.R.I.C. British. 11, Lingfield Avenue, Kingston. Research Chemist. *Signed by :* W. J. Kramers, I. G. C. Dryden, E. S. Stockton.

***Bannister, Brian,** B.A.(Oxon). British. Oriel College, Oxford. Research Student. *Signed by :* Ronald P. Bell, D. Ll. Hammick, S. G. P. Plant.

Bishop, Laurence Robert, M.A. and Ph.D. (Cantab.), D.Sc. (Birm.), F.R.I.C. British. 29, Kingswood Avenue, Shortlands, Bromley. Chief Chemist, Messrs. Watney Coombe Reid & Co., Ltd. *Signed by :* Julian L. Baker, A. C. Chibnall, R. H. Hopkins.

Black, Thomas Charteris, M.P.S. British. Oak Trees, Newlands Avenue, Radlett. Manufacturing Chemist. *Signed by :* Sidney G. E. Stevens, W. H. Linnell, W. R. Bett.

***Bond, Alexander Edward,** B.A. (Oxon). British. Oriel College, Oxford. Research Student. *Signed by :* D. Ll. Hammick, A. S. Bailey, S. G. P. Plant.

***Brackman, Derek Samuel.** British. 99, Leicester Road, Salford, 7. Student, Manchester University. *Signed by :* A. E. Gillam, F. Fairbrother, Colin Campbell.

***Brüll, Hans.** Austrian. 78, Canfield Gardens, N.W.6. Student, University College, Southampton. *Signed by :* N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.

***Bryant, Kenneth Henry.** National Certificate in Chemistry. British. 61, Gloucester Road, Bristol, 7. Junior Chemist. *Signed by :* Arthur Marsden, W. Pearson Thistlethwaite, Frank H. C. Bull.

Bussell, Leonard Herbert, B.Sc. (Lond.), F.R.I.C. English. c/o Messrs. Goodlass Wall & Co., Ltd., 70, Mill Lane, Old Swan, Liverpool, 13. Chief Chemist. *Signed by :* E. J. Bond, E. H. Rodd, R. Fraser Thomson.

Cameron, Albert James, B.Sc. (Aberd.), F.R.I.C. British. Kinkell, Inverurie. War Department Analyst. *Signed by :* G. Roche Lynch, R. Leslie Collett, H. J. T. Ellingham.

Chakravarti, Ram Narayan, D.Sc. (Calcutta). British. Dyson Perrins Laboratory, South Parks Road, Oxford. Research Chemist. *Signed by :* R. M. Acheson, Kenneth H. Pausacker, A. S. Bailey.

Clarke, Arthur Henry, B.Sc. (Lond.), A.R.I.C. British. 108, Elthorne Park Road, Hanwell, W. 7. Chemist. *Signed by :* H. B. Milner, A. M. Ward, L. J. Chalk.

*Cooke, Sidney John Harbron, B.A. (Oxon). British. 3, Beaconsfield Avenue, Colchester. Research Physical Chemist. *Signed by :* Ronald P. Bell, G. Swann, P. E. Milsom.

Cooper, Wilfred, M.Sc. (Lond.), A.R.I.C. British. 11, Manor Road, Streetly, nr. Birmingham. Research Chemist. *Signed by :* Herbert K. Hartley, C. E. Kendall, E. M. Joiner.

***Crook, Michael Allan.** British. 26, Northwood Gardens, Ilford. Student. *Signed by :* H. Holness, R. W. Jukes, C. G. Hawkins.

Curtis, Ronald George, M.Sc. (Melbourne), A.A.C.I. British. 7, Nevern Place, Earls Court, S.W. 5. Post graduate research student at Imperial College, London. *Signed by :* H. B. Henbest, P. A. Robins, E. R. H. Jones.

***Davies, Eric.** British. Stavros, Trentham Road, Blurton, Stoke-on-Trent. Student, Birmingham University. *Signed by :* M. Stacey, F. W. Pinkard, L. L. Bircumshaw.

de la Mare, Peter Bernard David, M.Sc.Hons. (N.Z.), A.N.Z.I.C. British. c/o Major A. Child, 10, The Drive, Shoreham-by-Sea. Research Student, University College, London. *Signed by :* E. D. Hughes, P. W. Robertson, C. K. Ingold.

***Drake, John,** B.Sc.Hons. (Lond.). British. 3, Dryburgh Road, Putney, S.W. 15. Research Student. *Signed by :* E. E. Turner, R. M. Barrer, D. W. Riley.

Duewell, Heinz, M.Sc. (Sydney). British. 5, Tudor House, 38, Blair Street, Bondi, N.S.W. Teaching Fellow in Chemistry, University of Sydney. *Signed by :* Adrien Albert, T. Iredale, D. J. Brown.

Eldridge, Elsie Margaret, B.Sc.Hons. (Lond.), B.Pharm. (Lond.), Ph.C. British. Beaulieu Farm, Baldslow, St. Leonards on Sea. Research Chemist at May and Baker, Ltd. *Signed by :* H. J. Barber, J. O'Mara-Bockris, W. R. Wragg.

Elliott, Roy Gordon Henry, Inter.B.Sc. British. 35, Slade Green Road, North End, Erith. Development and Manufacture of synthetic drugs. *Signed by :* E. Walton, Wm. Wardlaw, R. W. Pittman, G. E. Foster.

Ernst, Rudolf Lionel, Chem.Eng. (Vienna), Dr. Ing. (Vienna). British. 68, Middle Harbour Road, Lindfield, Sydney, N.S.W. Research and Consulting Chemist. *Signed by :* Thomas Iredale, Adrien Albert, B. Breyer.

***Francis, Cecil John.** British. 153, Northern Parade, North End, Portsmouth. Student, University College, Southampton. *Signed by :* Ishbel G. M. Campbell, N. K. Adam, S. H. Harper.

***Fricker, John Raymond.** British. 171, Maybank Road, South Woodford, E. 18. Student, University College, Southampton. *Signed by :* S. H. Harper, Ishbel G. M. Campbell, N. K. Adam.

***Frohnsdorff, Colin Herbert,** B.Sc. (Lond.). British. 60, Hamilton Crescent, Palmers Green, N. 13. Postgraduate Student. *Signed by :* W. Gerrard, H. J. S. King, R. W. West.

***Gentles, Robert Paul,** B.Sc.Hons. (Glas.). British. 5, Pennan Place, Glasgow, W. 4. Research Student. *Signed by :* S. Horwood Tucker, James D. Loudon, T. S. Stevens.

Glynn, Harry Ephraim, B.Sc. (Lond.), Ph.C., F.R.I.C. British. 10*a*, York Mansions, Earls Court Road, S.W. 5. Industrial Chemist. *Signed by :* A. L. Bacharach, E. Lester Smith, James E. Page.

Grimes, Fred Cameron, Inter.B.Sc. (Lond.). British. 66, Boyne Road, Lewisham, S.E. 13. Student, Imperial College, London. *Signed by :* Arthur I. Vogel, G. H. Jeffery, D. M. Cowan.

Hamburg, Herman Rudolph, Ph.D. (Vienna). British. 12, Lichfield Court, Richmond. Research Chemist in charge of Laboratories of Messrs. Syntics, Ltd., E. 13. *Signed by :* Evan Roberts, S. Pickholz, L. N. Owen.

Hall, Thomas Charles, M.S.R. British. Langland, London Road, Wickford. Biochemical Assistant. *Signed by :* G. D. Greville, W. J. Lile, W. Taylor.

Hickey, Bartholomew Patrick, Ph.C., M.P.S.I. Irish. Rush, Co. Dublin. Pharmaceutical Chemist. *Signed by :* A. G. G. Leonard, T. S. Wheeler, Vincent C. Barry.

***Hill, Alexander.** British. Rose Dene, Rowlands Gill, Co. Durham. Student, King's College, University of Durham. *Signed by :* Wesley Cocker, J. O. Harris, Richard Raper.

Hill, William, B.Sc. (Glas.), A.R.I.C. British. 9, Daldowie Avenue, North Mount Vernon, Glasgow, E. 2. Teacher. *Signed by :* T. S. Stevens, James D. Loudon, Andrew Kent.

Hood, Eric Wharton, B.Sc.Hons. (Birm.). British. c/o 19, Perrymead Street, Fulham, S.W. 6. Research Chemist. *Signed by :* L. P. McHatton, P. F. Cooke, T. Martin A. Tudhope.

Hough, Ellis, M.Sc.Hons. (Leeds). British. c/o Rock Lawn, View Road, Rainhill, nr. Liverpool. Senior Chemistry Master, Prescot Grammar School, Lancs. *Signed by :* F. Firth, Robert Gawler, Trefor Davies.

Howard, George Marshall. British. 704, Frobisher House, Dolphin Square, S.W. 1. Chief Chemist in charge of Analytical Control Laboratories of Messrs. John Wyeth & Brother Ltd., and Messrs. The International Chemical Co., Ltd., Braydon Road, N. 16. *Signed by :* Harold G. Haynes, Theodore White, A. Sciver.

Hulsken, Mrs. Enid Marian, B.A. (Cantab.), B.Sc. (Lond.). Dutch. 25, Ashley Road, Epsom. Research Librarian. *Signed by :* F. A. Robinson, H. M. Stanley, R. H. Hall.

Jakobovits, Josef, B.Sc. (Lond.). German. Court Lodge, Mulberry Street, E. 1. Research Student at University College, London. *Signed by :* O. L. Brady, C. K. Ingold, J. N. E. Day.

***Levy, Joseph Lionel.** British. South Stoneham House, Swaythling, Southampton. Student, University College, Southampton. *Signed by :* S. H. Harper, N. K. Adam, Ishbel G. M. Campbell.

Liddon, Edward Charles, M.P.S. British. 3, The Ridge, Coulsdon, Surrey. Pharmacist, Control Laboratory, Messrs. Bengué & Co., Ltd., Manufacturing Chemists, Alperton, Wembley. *Signed by :* Douglas C. Harrod, Kenneth B. Belcher, D. C. Garratt.

***Loebl, Hanna.** British. 26, Rectory Terrace, Gosforth, Newcastle-on-Tyne, 3. Student, King's College, Newcastle-on-Tyne. *Signed by :* Richard Raper, Wesley Cocker, G. R. Clemo.

***Lowen, Ailsa Macvey,** B.Sc. (Melbourne). British. Royal Holloway College, Englefield Green. Research Student. *Signed by :* Gwyn Williams, A. Graham Foster, M. M. T. Plant.

Marchant, Reginald Humfrey, B.Sc.Hons. (Lond.). British. 28, Ethelbert Gardens, Ilford. Demonstrator in Biochemistry. *Signed by :* D. E. Kidder, P. C. Crofts, D. Graham Harvey.

***Mattock, George Victor Robert,** Inter.B.Sc. British. 13, Cobden Road, Leytonstone, E. 11. Student. *Signed by :* H. Holness, R. W. Jukes, C. G. Hawkins.

Misra, Gauri Shankar, M.Sc. (Allahabad). Indian. 20, Addiscombe Grove, Croydon. Research Student at King's College, Strand, W.C. 2. *Signed by :* J. M. Osbond, O. C. Musgrave, D. H. Hey.

Monro, Ernest Austin, B.Sc. (St. Andrews). British. c/o Armament Research Department, R.G.P.F., Waltham Abbey. Technical Secretary. *Signed by :* Elwyn Roberts, W. W. Jones, A. Lovecy.

***Morgan, Thomas Meirion.** British. 5, Heol Maelor, Johnstown, nr. Wrexham. Student, University College of Wales, Aberystwyth. *Signed by :* C. W. Davies, Kurt Heller, J. B. Bowen.

Moss, John Arthur, Inter.B.Sc. British. 30, Beechcroft Avenue, New Malden, Surrey. Student, Imperial College, London. *Signed by :* B. Atkinson, L. S. Theobald, J. A. Kitchener.

Murnaghan, Arthur Reginald. British. 16, St. Denys Road, Southampton. Student, University College, Southampton. *Signed by :* N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.

Paine, Frank Albert, B.Sc. (Lond.), A.R.I.C. British. 20, Upham Park Road, Chiswick, W. 4. Research Chemist. *Signed by :* W. H. Banks, G. L. Riddell, Robert H. Pickard.

***Parker, Richard Eric,** B.Sc.Hons. (Lond.), A.R.I.C. British. 48, Avonmore Road, West Kensington, W. 14. Demonstrator, King's College, London. *Signed by :* John M. Osbond, D. H. Kohn, D. H. Hey.

Parkinson, Allan Rycroft, B.Sc. (Manc.). British. 11, Bentinck Street, W. 1. Chemical and Drug Merchant. *Signed by :* G. J. Pritchard, Richard W. Wren, Harri Heap.

***Pate, Brian David,** Inter.B.Sc. British. 52, Priory Avenue, South Chingford, E. 4. Student. *Signed by :* R. W. Jukes, H. Holness, C. G. Hawkins.

***Ring, Maurice Frank.** British. Keble College, Oxford. Student, Oxford. *Signed by :* G. D. Parkes, Harry Irving, L. A. K. Staveley.

***Ritchie, Alexander Crawford,** B.Sc.Hons. (Glas.). British. 20, Ella Gardens, Mossend, Bellshill. *Signed by :* James D. Loudon, T. S. Stevens, C. Buchanan.

***Roberts, Gordon John.** British. 184 Anchor Road, Longton, Stoke-on-Trent. Student. *Signed by :* M. Stacey, F. W. Pinkard, L. L. Bircumshaw.

***Rogers, Roy Charles,** Inter.B.Sc. British. 88, Butler Road, Harrow. Technical Assistant, Messrs. Reddie & Grose, Chartered Patent Agents. *Signed by :* T. A. Soames, D. Ridge, H. Lambourne.

***Rutherford, Allan,** B.Sc.Hons. (Lond.). British. 5, Hoskins Street, Greenwich, S.E. 10. Research Student, King's College, London, W.C. 2. *Signed by :* V. Gold, John Honeyman, J. C. D. Brand.

Santhappa, Muchi, B.A. (Madras). British. International Language Club, 20, Addiscombe Grove, East Croydon. Research Student, Northern Polytechnic. *Signed by :* W. A. Smeaton, W. Gerrard, H. J. S. King.

***Sayers, Edward Cecil.** British. 20, Claremont Road, Twickenham. Student, University College, Southampton. *Signed by :* N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.

***Shipton, Gordon Owen,** B.Sc.Hons. (L'pool). British. 536, Stanley Road, Liverpool, 20. Technical Assistant. *Signed by :* A. M. McGookin, W. B. Whalley, Leonard E. Jones.

Skellon, Joseph Henry, M.Sc. and Ph.D. (Lond.), B.Sc. (Bristol), F.R.I.C. British. 57, Murray Avenue, Bromley. Lecturer in Chemistry, Chelsea Polytechnic, Manresa Road, S.W. 3. *Signed by :* J. C. Crocker, Charles Doreet, F. H. Lowe.

***Soanes, Peter William.** British. 9, Kennedy Road, Maybush, Southampton. Student, University College, Southampton. *Signed by :* N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.

Spensley, Philip Calvert, B.A. (Oxon). British. 22, Mount Avenue, Ealing, W. 5. Research in Organic Chemistry at the Dyson Perrins Laboratory, Oxford. *Signed by :* Ronald P. Bell, R. M. Acheson, H. R. Bentley.

***Standen, Colin John Smeed,** Inter.B.Sc. (Lond.). British. Pentire, The Groves, Snodland. Student, University College, Southampton. *Signed by :* N. K. Adam, Ishbel G. M. Campbell, S. H. Harper.

***Swayne, Roy Eric Hugh,** Inter.B.Sc. British. Pontac, Harrow Road, Sudbury Wembley. Assistant Research Chemist. *Signed by :* David O. Holland, J. Elks, John Attenburrow.

***Tibbs, Geoffrey Thomas,** Inter.B.Sc. British. 30, Stimpson Avenue, Northampton. Student, University College, Nottingham. *Signed by :* D. O. Jordan, John E. Still, C. C. Addison.

Tompkins, Frederick Clifford, B.Sc. and Ph.D. (Bristol). English. Department of Chemistry, King's College, W.C. 2. I.C.I. Research Fellow (University of London). Assistant Editor, Faraday Society Transactions. *Signed by :* D. H. Hey, A. J. Allmand, D. W. G. Style.

***Tulip, Alan.** English. 1, Luxmoore Avenue, Willington. Student, University College, Durham. *Signed by :* G. H. Christie, C. W. Gibby, F. A. Paneth.

***Vipond, Hilton James.** British. 12, Russell Terrace, Birtley. Student, University of Durham. *Signed by :* Richard Raper, Joseph Weiss, Wesley Cocker.

***Watt, Peter Ridgway.** British. Chemistry Department, The University, Woodland Road, Bristol. Student. *Signed by :* C. E. H. Bawn, T. Malkin, W. Baker.

Whitaker, Donald Robert, B.Sc.Hons. (Manitoba). Canadian. London House, Guilford Street, W.C. 1. Student, London School of Hygiene and Tropical Medicine. *Signed by :* H. Raistrick, S. E. Michale, J. H. Birkinshaw.

***Williams, Doreen Margaret,** B.Sc. (Lond.). British. 81, Elmsleigh Avenue, Kenton, Harrow. Chemist. *Signed by :* Leslie H. Lampitt, E. B. Hughes, G. E. Forstner.

***Willis, John Bryan,** M.Sc. (Sydney), A.A.C.I. British. London House, Guilford Street, W.C. 1. Research Student, University College, London. *Signed by :* S. Sugden, C. K. Ingold, C. A. Bunton.

Wrench, Frederick, M.Sc. (L'pool). British. Bona Vista, Callington Road, Tavistock. Chemistry Master, Tavistock Grammar School. *Signed by :* A. McGookin, E. Tittensor, W. R. Smithies.

***Wyatt, Peter Arthur Harris,** B.Sc. (Wales). British. 51, Mount Pleasant, South Ruislip. Research Student. *Signed by :* C. W. Davies, J. B. Bowen, Kurt Heller.

UNDER SPECIAL PROVISION APPERTAINING TO CANDIDATES RESIDENT ABROAD.

Enos, Herman Isaac, Jr., A.B. and M.S. (Southern California), Ph.D. (Illinois). American. Department of Chemistry, Swarthmore College, Swarthmore, Pa. Instructor in Chemistry. *Signed by :* H. Jermain Creighton.

Cupr, Vaclav, R.N.Dr. (Brno). Czech, Kounicova 63, Brno. Professor at Masaryk University. *Signed by :* J. Heyrovsky.

Curtin, David Yarrow, Ph.D. (Illinois). American. Department of Chemistry, Columbia University, New York, N.Y. Instructor in Chemistry. *Signed by :* Louis P. Hammett.

Molinari, Arthur. Swiss. 46 Beckenhofstr., Zurich 6. Student of Chemistry at the Swiss Federal Institute of Technology, Zurich. *Signed by :* L. Ruzicka.

Prins, Daniel August, Ph.D. (Basle), Dipl.Ing.Chem. E.T.H. (Zurich). Dutch. Institut de Médecine et de Chirurgie Experimentales, Université de Montreal, Montreal. Assistant professor, University of Montreal. *Signed by :* C. W. Shoppee, G. A. R. Kon.

Schilling, Robert Simon, D.Phil. (Bern). Swiss. Villa Bocksriet, Schaffhausen. Consulting Chemist. *Signed by :* Frederic L. Goodall.

Stevens, René Adrien, Dr.Chem. (Brussels). Belgian. 18, Jan Blockxstraat, Antwerp. Chief of the Patent and Information Service of Gevaert Photo-Producten N.V., Mortsel-Antwerp. *Signed by :* W. Mund.

Stirnemann, Ernst, Dr. of Natural Sciences (Zurich). Swiss, c/o Lonza Electric and Chemical Works, Ltd., Aeschenvorstadt 72, Basel. Chief Chemist. *Signed by :* T. Reichstein, C. W. Shoppee.

* Reduced annual subscription.

PAPERS RECEIVED

List of papers received between October 18th, 1946, and November 20th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal*.)

"Some heterocyclic methylene bases and their anilomethyl derivatives." By F. M. Hamer, R. J. Rathbone, and B. S. Winton.

"Some reactions and derivatives of the 6- and 7-nitro-2-naphthylamines. Part II. Nitration and diazo-coupling." By H. H. Hodgson and E. R. Ward.

"A synthesis of cytidine." By G. A. Howard, B. Lythgoe, and A. R. Todd.

"3-Deoxy-1-xylose." By S. Mukherjee and A. R. Todd.

"Some *O*-alkyl- and *OO'*-alkylene-hydroxylamines and -hydroxyguanidines." By A. T. Fuller and H. King.

"The preparation, properties, and chlorination products of carbon diselenide." By D. J. G. Ives, R. W. Pittman, and W. Wardlaw.

"Substituted benzilic acids and benzophenones." By A. H. Ford-Moore.

"β-Phellandrene tetrabromide." By P. A. Berry and A. K. Macbeth.

"Studies on the alkylation of aromatic amines. Part II. The vapour-phase methylation of *N*-methylaniline by methanol in the presence of an alumina catalyst." By J. C. Earl and N. G. Hills.

"Infra-red spectrum and structural diagnosis : substituted carbazoles." By R. E. Richards.

"Activating influence of para groups on the lability of chlorine in chlorobenzenes." By G. M. Badger, J. W. Cook, and (Miss) W. P. Vidal.

"An improved preparation of 1 : 8-dinitronaphthalene." By H. H. Hodgson and E. R. Ward.

"Symmetrical tricarbocyanines having one or more methyl groups as substituents on the chain." By F. M. Hamer and R. J. Rathbone.

"The synthesis of 3-methyl and 3 : 5-dimethyl *l*-arabinose." By E. L. Hirst, J. K. N. Jones, and (Miss) E. Williams.

"The constitution of egg-plum gum. Part I." By E. L. Hirst and J. K. N. Jones.

"Molecular rearrangement and displacement of arylamine residues in α-arylamino-ketones. Part I." By R. M. Cowper and T. S. Stevens.

"Desoxypentose nucleic acids. Part I. Preparation of the tetrasodium salt of the desoxypentose nucleic acid of calf thymus." By J. M. Gulland, D. O. Jordan, and C. J. Threlfall.

"Desoxypentose nucleic acids. Part II. Electrometric titration of the acidic and basic groups of the desoxypentose nucleic acid of calf thymus." By J. M. Gulland, D. O. Jordan, and H. F. W. Taylor.

"Desoxypentose nucleic acids. Part III. Viscosity and streaming birefringence of solutions of the sodium salt of the desoxypentose nucleic acid of calf thymus." By J. M. Creeth, J. M. Gulland, and D. O. Jordan.

"The crystal structure of the orthorhombic modification of 1 : 2 : 5 : 6-dibenzanthracene. A quantitative *X*-ray investigation." By J. M. Robertson and J. G. White.

"Addition of dinitrogen tetroxide to olefins. Part IV. The butylenes." By N. Levy, C. W. Scaife, and A. E. Wilder Smith.

"Addition of dinitrogen tetroxide to olefins. Part V. *cyclo*Hexene and the octylenes." By N. Levy and C. W. Scaife.

"Photochemical reactions in sunlight. Part XII. Reactions with phenanthraquinone, 9-arylxanthenes, and diphenyl triketone." By A. Schönberg and A. Mustafa.

"Spectroscopic studies of the amide linkage." By R. E. Richards and H. W. Thompson.

"Vibrational spectra of phenolic derivatives and phenolic resins." By R. E. RICHARDS and H. W. THOMPSON.

"Tetrahydroacridones and related compounds as antimalarials." By (MISS) J. M. L. STEPHEN, (MISS) I. M. TONKIN, and J. WALKER.

"The hydrogenation of furfural to furfuryl alcohol and sylvan." By J. G. M. BREMNER and R. K. F. KEEYS.

"The relation of yttrium to the rare earths. A study of molecular volumes." By J. K. MARSH.

"Penta- and hexa-phenylene structures." By W. S. RAPSON.

"Course of cyclisation in the formation of alicyclic rings. Part I. Effect of alkyl groups on the cyclisation of esters of polycarboxylic acids." By R. N. CHAKRAVARTI.

"The constitution of cherry gum. Part II." By J. K. N. JONES.

"The crystal and molecular structure of certain dicarboxylic acids. Part III. Diacetylenedicarboxylic acid dihydrate." By J. D. DUNITZ and J. M. ROBERTSON.

"The minor alkaloids of *Duboisia myoporoides*. Part IV. Valeroidine." By W. MITCHELL and E. M. TRAUTNER.

"The constitution of ψ-santonin. Part IV. A study of the butenolide system." By W. COCKER and S. HORNSBY.

"Δ^2-*cyclo*Hexenones from 2-methylpyridines." By A. J. BIRCH.

"Olefinic acids. Part II. The reactivity of α-bromoacrylic acid and some related compounds." By L. N. OWEN and H. M. BABATUNDE SOMADE.

"Theory of chromatography. Part II. Chromatograms of single solutes." By E. GLUECKAUF.

"Theory of chromatography. Part III. The influence of incomplete equilibrium on the front-boundary of chromatograms and on the effectiveness of separation." By E. GLUECKAUF and J. I. COATES.

"Theory of chromatography. Part IV. Separation of two solutes following an isotherm of the Langmuir type." By J. I. COATES and E. GLUECKAUF.

"Theory of chromatography. Part V. Separation of two solutes following a Freundlich isotherm." By E. GLUECKAUF.

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December, 1946

THE CHEMICAL SOCIETY

SCIENTIFIC MEETINGS DURING FEBRUARY, 1947

LONDON.

Thursday, February 6th, 1947, *at* 7.30 *p.m.*

Tilden Lecture, **The Application of Surface Chemistry to Colloidal Problems,** by Dr. A. E. Alexander, B.Sc.

Thursday, February 20th, 1947, *at* 7.30 *p.m.*

The following papers will be read and discussed :

" The reduction of oxides by hydrogen and carbon monoxide," by W. E. Garner.*

" The photochemical polymerisation of vinyl acetate vapour ", and " Radical sensitised polymerisation of vinyl acetate vapour ", by H. W. Melville and R. F. Tuckett.*

ABERDEEN.

Friday, February 28th, 1947, *at* 7.30 *p.m.*

Lecture, **Grinding and Size Reduction : Some Problems Met in the Fertiliser Industry,** by Mr. R. H. Calvert.

Joint meeting with the local section of the Royal Institute of Chemistry and the Society of Chemical Industry, to be held in the Chemistry Department, Marischal College.

BIRMINGHAM.

Friday, February 21st, 1947, *at* 4 30 *p.m.*

Lecture, **Surface Chemistry and Colloids,** by Dr. A. E. Alexander, B.Sc., to be held in the Chemical Lecture Theatre of the University.

BRISTOL.

Thursday, February 13th, 1947, *at* 2.15 *p.m.*

Discussion and Official Meeting of the Society. **" Protein Chemistry."**

Contributors will include Professor J. D. Bernal, Professor A. C. Chibnall, Dr. G. R. Tristam, Dr. R. A. Kekwick, and Dr. J. A. V. Butler. To be held in the Chemical Department of the University.

EDINBURGH.

Thursday, February 20th, 1947, *at* 7.30 *p.m.*

Lecture, **Fluorescence,** by Dr. N. Campbell.

Joint meeting with the local sections of the Royal Institute of Chemistry and Society of Chemical Industry, to be held in the North British Station Hotel.

EXETER.

Friday, February 21st, 1947, *at* 4.30 *p.m.*

Lecture, **Some Reactions of Free Radicals,** by Dr. W. A. Waters, M.A., F.R.I.C.

To be held at Washington Singer Laboratories.

GLASGOW.

Friday, February 21st, 1947, *at* 7 *p.m.*

Annual General Meeting of Local Section followed by the reading of original papers.

To be held in the Royal Technical College, Glasgow.

* To read paper.

LEEDS.

Tuesday, February 25th, 1947, at 5 p.m.

Display of Scientific Films followed by a Lecture at 6.30 p.m., **The Chemistry of Penicillin,** by Professor Wilson Baker, M.A., D.Sc., F.R.S.

To be held in the Chemistry Lecture Theatre of the University.

LIVERPOOL.

Thursday, February 20th, 1947, at 5 p.m.

Lecture, **Recent Developments in the Chemistry of Starch and Glycogen,** by Professor E. L. Hirst, M.A., D.Sc., F.R.S.

To be held in the Chemistry Lecture Theatre of the University.

Thursday, February 27th, 1947, at 7 p.m.

Lecture, **The Complete Analyst,** by Mr. R. C. Chirnside, F.R.I.C.

Joint meeting with the local sections of the Royal Institute of Chemistry, the Society of Chemical Industry, and the British Association of Chemists to be held in the Chemistry Lecture Theatre of the University.

MANCHESTER.

Thursday, February 13th, 1947, at 7.30 p.m.

Lecture, **Some Aspects of the Chemistry of Fluorocarbons,** by Professor M. Stacey, D.Sc., Ph.D., F.R.I.C.

Joint meeting with the local section of the Royal Institute of Chemistry to be held in the Chemistry Department of the University.

NEWCASTLE and DURHAM.

Friday, February 14th, 1947, at 5 p.m.

Bedson Club Lecture, **Some Aspects of Solid Reactions,** by Professor W. E. Garner, C.B.E., D.Sc., F.R.S.

To be held at King's College, Newcastle-on-Tyne, and all Fellows are invited.

NORTHERN IRELAND.

Tuesday, February 4th, 1947, at 7.30 p.m.

Lecture, **Methods and Apparatus in Inorganic Microchemistry,** by Mr. R. Belcher, F.R.I.C., and Dr. C. L. Wilson, M.Sc., F.R.I.C.

Joint meeting with the local section of the Royal Institute of Chemistry to be held in the Chemical Lecture Theatre, Queen's University, Belfast.

NOTTINGHAM.

Thursday, February 20th, 1947, at 7 p.m.

Lecture, **Crystal Analysis and Stereochemistry,** by Professor E. G. Cox, D.Sc.

To be held in the Large Chemistry Theatre of University College.

ST. ANDREWS and DUNDEE.

Thursday, February 20th, 1947, at 4.30 p.m.

Lecture, **Diffusion in High Polymer Systems,** by Dr. G. S. Hartley.

To be held in the Chemistry Department, University College, Dundee.

SHEFFIELD.

Thursday, February 13th, 1947, at 5.30 p.m.

Lecture, **Bond Lengths in Aromatic Hydrocarbons,** by Professor J. Monteath Robertson, M.A., D.Sc., F.R.S.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

Thursday, February 20th, 1947, at 5.30 p.m.

Lecture, **The Study of Antibiotics,** by Professor Sir Howard W. Florey, M.B., M.A., Ph.D., F.R.S.

To be held in the Chemistry Lecture Theatre of the University.

Thursday, February 27th, 1947, at 5.30 p.m.

Lecture, **Homolytic Reactions,** by Professor D. H. Hey, D.Sc., Ph.D., F.R.I.C.

Joint meeting with the University Chemical Society to be held in the Chemistry Lecture Theatre of the University.

SOUTHAMPTON.

Friday, February 21st, 1947, at 5 p.m.

Lecture, **The Chemistry of Vitamin A,** by Professor Sir Ian Heilbron, D.S.O., D.Sc., F.R.S.

Joint meeting with the University College of Southampton Chemical Society to be held in the Physics Lecture Theatre of University College.

SOUTH WALES.

Friday, February 7th, 1947, at 6.45 p.m.

Lecture, **Structural Inorganic Chemistry,** by Professor W. Wardlaw, D.Sc., F.R.I.C.

Joint meeting with the Local Sections of the Royal Institute of Chemistry and the Society of Chemical Industry to be held at University College, Cardiff.

PROCEEDINGS

OF THE

CHEMICAL SOCIETY.

Minutes of a

SCIENTIFIC MEETING

held at Burlington House, Piccadilly, W.1, on Thursday, December 5th, 1946, at 7.30 p.m.

The President, Professor C. N. Hinshelwood, Sc.D., F.R.S., was in the Chair.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, November 21st, 1946, were read, and were confirmed and signed.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Chemical Society: P. A. Jenkins, P. F. Onyon, C. G. Sumner, T. C. Shaw, W. J. T. Wilkinson, K. B. W. Jones, P. W. Kent, J. M. Osbond, J. R. Chalmers, H. Schweitzer, R. T. Fowler, A. H. Howland, L. A. Allen.

TILDEN LECTURE.

The President called on Professor M. Stacey, D.Sc., Ph.D., F.R.I.C., to deliver his Tilden Lecture, entitled " Macromolecules Synthesised by Micro-organisms."

At the conclusion of the Lecture, Professor Wilson Baker proposed a vote of thanks to the Lecturer, which was carried with acclamation.

Minutes of a

SCIENTIFIC MEETING

held at the Royal Institution, Albemarle Street, W.1, on Wednesday, December 18th, 1946, at 7.30 p.m.

The President, PROFESSOR C. N. HINSHELWOOD, Sc.D., F.R.S., was in the Chair.

The PRESIDENT expressed the appreciation of the Society to the Managers of the Royal Institution for the use of their Theatre on this occasion. He then welcomed the Presidents of the Royal Institute of Chemistry and the Society of Chemical Industry who were present.

MINUTES.

The Minutes of the Scientific Meeting held on Thursday, December 5th, 1946, were read, and were confirmed and signed.

FORMAL ADMISSION OF PROFESSOR HAROLD C. UREY, D.Sc., Ph.D.

Professor Harold C. Urey, an Honorary Fellow of the Society, was formally admitted.

LIVERSIDGE LECTURE.

After a brief introduction, in which the President referred to the terms of the Liversidge Lecture bequest and to Professor Urey's achievements in chemistry, he called on Professor Urey to deliver his Liversidge Lecture entitled " Some Problems in the Separation of Isotopes."

At the conclusion of the Lecture the vote of thanks to Professor Urey proposed by Professor S. Sugden, D.Sc., F.R.S., was carried with acclamation.

Minutes of a

SCIENTIFIC MEETING

held in the Biochemistry Lecture Theatre, The University, Teviot Place, Edinburgh, on Thursday, December 19th, 1946, at 5.30 p.m.

(Prior to the Meeting a reception to the Society was given by Sir John Fraser, Vice-Chancellor and Principal of the University, in the Upper Library Hall of the University.)

PROFESSOR J. W. COOK, D.Sc., F.R.S., Vice-President, was in the Chair.

In opening the Meeting, the Chairman expressed the gratitude of the Society to Sir John Fraser and the Court of the University for acting as Hosts to the Society. Professor Cook also referred to Joseph Black's Chair, which was loaned for the occasion of the meeting.

FORMAL ADMISSION OF FELLOWS.

The following were admitted Fellows of the Society: J. W. Minnis, R. J. Benzie, E. G. V. Percival, F. N. Woodward, A. G. Mitchell, G. E. Dodds, F. J. Bolton, H. E. Watt, A. MacKinnon, J. C. Patek, R. C. Mackenzie, W. I. H. Winning, H. D. Macmurray, W. S. Sim, A. L. Martin, M. A. Murray, W. O. Kermack, A. B. Roy, J. S. Wilkie, R. Lind, K. C. Reid, A. A. Woodham, A. Mackie.

LIVERSIDGE LECTURE.

After a brief introduction in which he recalled Professor Urey's distinguished career in chemistry and dealt briefly with the terms of the bequest of the Liversidge Lecture, the Chairman called upon Professor Urey to deliver his Liversidge Lecture, entitled "Some Problems in the Separation of Isotopes."

At the conclusion of the Lecture, the Chairman invited Professor J. Kendall, M.A., D.Sc., F.R.S., to propose the vote of thanks which was carried with great enthusiasm and acknowledgment was made by Professor Urey.

OFFICIAL ANNOUNCEMENTS

DEATHS.

The Council regret to announce the deaths of the following Fellows:

	Elected.	Died.
Pierce Alfred Arnold (Morden)	Dec. 6th, 1917	Nov. 25th, 1946
Dorothy Jordan-Lloyd (S.E. 1)	May 4th, 1933	Nov. 21st, 1946
Charles George Matthews (Borth)	June 16th, 1876	Nov. 10th, 1946
William Henry Roberts (Liverpool)	Oct. 16th, 1941	Nov. 16th, 1946

CONGRATULATIONS.

Congratulations have been conveyed to the following Fellows who have completed 60 years of Fellowship:

	Elected.
Leslie Pyke (S.W. 1)	December 2nd, 1886
Francis James Henderson Coutts (Birmingham)	December 16th, 1886
Stephen James Pentecost (Nottingham)	December 16th, 1886

and to the following who have completed 50 years of Fellowship:

	Elected.
Arthur Croft Hill (S.W. 7)	December 3rd, 1896
Charles Alexander Hill (W. 1)	December 3rd, 1896
Alexander Henry Mitchell Muter (Horley)	December 3rd, 1896

The following Fellows have also been congratulated by the Council on being awarded Medals by the Royal Society:

Sir Alfred C. G. Egerton	Rumford Medal
Professor C. K. Ingold	Davy Medal

VACANCIES ON COUNCIL.

The names of the members of Council who retire at the next Annual General Meeting are as follows:

Vice-Presidents who have not filled the Office of President: Mr. E. J. BOWEN.

Elected Ordinary Members of Council :

Constituency I (South-East England). Dr. M. P. BALFE and Dr. E. R. H. JONES.
Constituency II (Central and South-West England and South Wales). None.
Constituency III (North-West England, North Wales, and the Isle of Man). None.
Constituency IV (North-East England). Dr. M. P. APPLEBEY and Professor L. HUNTER.
Constituency V (Scotland).

The above are ineligible for the same office until after the lapse of one year. In accordance with Bye-Law 42, the Council, in October, 1946, invited Dr. F. E. King to fill until the next Annual General Meeting the vacancy caused by the retirement of Professor R. J. W. Le Fèvre under Bye-Law 56, and creates an additional vacancy in Constituency I. Dr. F. E. King is eligible for re-election in this constituency.

NOTICE is hereby given that in accordance with the Bye-Laws the following vacant places in the Council fall due to be filled at the Annual General Meeting to be held in London on March 20th, 1947.

Vice-Presidents who have not filled the office of President ..... *One vacancy.*

Elected Ordinary Members of Council :

Constituency I (South-East England)..... *Three vacancies.*
Constituency II (Central and South-West England and South Wales) ..... *No vacancies.*
Constituency III (North-West England, North Wales, and Isle of Man) ..... *No vacancies.*
Constituency IV (North-East England) ..... *Two vacancies.*
Constituency V (Scotland) ..... *No vacancies.*

Nominations by Fellows for the office of Vice-President should be made in writing **signed by at least twenty Fellows.**

Fellows resident in a constituency may nominate any Fellow resident in that constituency for election to the Council to fill a vacancy among Elected Ordinary Members of Council allotted to that constituency. Every such nomination must be in writing **signed by at least fifteen Fellows resident in that constituency.**

Every nomination must relate to one vacant place only, and must be accompanied by a signed declaration by the nominee that he is willing to accept office, if elected.

All nominations must be received by the Honorary Secretaries at the Society's Rooms not later than **Friday, February 14th, 1947.**

Forms of nomination can be obtained on application to the General Secretary. Applicants should indicate the vacancy for which the form is required.

Fellows are also being notified of these vacancies in a separate notice.

RESEARCH GRANTS.

The Council has made the following grants from the Research Fund :

Belfast, Queen's University.

	£	s.	d.
R. G. R. Bacon. " Aldehyde Formation "	15	0	0

Cambridge, Department of Physical Chemistry.

J. N. Agar. " Electro-chemical reduction O_2 and H_2O_2 "	10	0	0
F. S. Dainton. " Photochlorination "	30	0	0
K. J. Ivin. " Kinetics of gas and liquid phase reactions initiated by radicals of short life "	12	0	0

Dublin, Trinity College.

W. A. Boggust. " Study of Benzthiazole chemistry "	10	0	0
C. Lipman. " Chemistry of Santonin "	35	0	0

Dundee, University College.

K. C. Reid. " Preparation of furoins and hydrofuroins "	20	0	0

Leeds, University.

E. Rothstein. " Influence of sulphur in tautomerism "	20	0	0

London, Imperial College.

D. H. R Barton.	" Studies in steroid chemistry "	20 0 0

London, King's College.

L. Crombie.	" Olefinic Acids "	20 0 0

London, Queen Mary College.

H. H. Neville.	" Thermal decomposition of carbonyl sulphide "	15 0 0
J. F. Williams.	" Formaldehyde Water System "	10 0 0

London, Royal Holloway College, Englefield Green.

G. Williams.	" Mechanism of polymerisation processes "	10 0 0

London, St. Mary's Hospital.

S. Jacobs.	" Hydration of nitrocellulose films "	15 0 0

London, Private Laboratory.

M. A. Phillips.	" Antibacterial activity of certain quaternary ammonium salts "	10 0 0

Oxford, Inorganic Chemistry Laboratory.

F. M. Brewer.	" Geochemical association of elements "	30 0 0
J. W. Linnett.	" Specific heats of gases "	40 0 0

Southampton, University College.

N. B. Chapman.	" Reactivity of halogen atoms in nitro-halopyridines and halopyrimidines "	20 0 0

Swansea, University College.

E. E. Ayling.	" Dihydroresorcinols "	9 0 0

Whitby, The Grammar School.

E. L. Shimmin.	" Substitution products of γ-pyrene "	8 0 0
		£359 0 0

ELECTION OF NEW FELLOWS.

The following 45 Candidates were elected Fellows of the Society on December 5th, 1946 :

Peter James Seymour Barry.	Mavis Pauline Garwood.	Geoffrey Mayhew.
Gerald Torkington Bassil.	Frank Henry Geake.	Antony Nechvatal.
Albert Battersby.	Joseph Glazer.	William John Peal.
David Roland Wagstaffe Bell.	Brian Stanley Gorringe.	Walter Pilnik.
John Atkinson Bennett.	Bishwanath Prasad Gyani.	Witold Zenon Poklewski-Koziell.
Leonard Thomas Butt.	Alexander Haddow.	Austin Charles Riddiford.
David George Carter.	Graham John Hills.	William Robertson.
Louis Chardonnens.	George William Grahame Jackman.	Hendrik Egbert Slaap.
Eric Bentley Crosland	George John Janz.	Austin Robert Tatchell.
Dimitre Ivanoff Daleff.	Bohdan Jelinek.	David Alexander Harrison Taylor.
John Tasman Davies.	Neville Douglas Lee.	Raymond Stanley Theobald.
James Eric Day.	Harold Samuel Lilley.	Cyril Thompson.
Robert Pickeman Dryden.	John Alexander Low.	Bal Dattatraya Tilak.
John Molyneux Fletcher.	Ronald Andrew McAllister.	Marjorie Treadgold.
James Eric Garside.	Francis Finlay McNaughton.	Victor Daniel Tyrrell.

CENTENARY CELEBRATIONS, 1947.

The Provisional Programme of the Centenary Celebrations to be held in London in July 1947 will be circulated to all Fellows before the end of January 1947.

MEETING OF COUNCIL.

A meeting of Council was held on Thursday, December 5th, 1946. The Report of the Publication Committee (December 5th) was adopted, and it was agreed to act on the recommendation that the International Committee of Atomic Weights be asked to give consideration to the desirability of basing the published atomic weights on the physical atomic weight of oxygen.

The Report of the Joint Library Committee (November 27th) was received, and it was learned with

profound regret that there had been a serious loss of books from the Library during the previous few months, and the Council reluctantly agreed to take certain steps to prevent such further losses. It was also agreed to request the Scientific Committee for Germany to take steps to ensure that the highest priority is given to the Society's Library in the allocation of chemical literature brought from Germany.

Contributions towards the cost of maintenance of the Library, in accordance with existing agreements, from the Faraday Society, the Society of Public Analysts, and the British Association of Chemists were noted and acknowledgment made. Gifts from Mr. D. R. Lawson and Mr. E. H. T. Jukes to the Centenary Fund were also noted with pleasure.

The resignation of Dr. D. C. Martin as General Secretary was received with regret. Action to appoint a successor was considered.

The Report of the Centenary Executive Committee (November 7th) giving further details of the programme for the forthcoming Centenary Celebrations was adopted.

The resignation of Professor Brynmor Jones as Local Representative for Sheffield was accepted with much regret, and Dr. A. H. Lamberton was invited to take up this appointment.

The Report of the Research Fund Committee (November 21st) was adopted and grants from the Research Fund amounting to £359 were approved.

45 Candidates for Fellowship were elected Fellows of the Society.

Certain formal and financial items were transacted.

GERMAN BOOKS ON CHEMICAL AND COGNATE SUBJECTS.

The Chemical Council has printed in pamphlet form a limited number of a List of German books on Chemical and Cognate Subjects published from 1939 to 1946, compiled by Dr. Hamilton McCombie, D.S.O., M.C., M.A., and Mr. A. E. Cummins, Librarian of the Chemical Society.

A copy will be forwarded to any Fellow or member of any other Society represented on the Chemical Council, free of charge, on application to the Acting Secretary of the Chemical Council, 9/10, Savile Row, London, W.1.

DR. G. M. DYSON'S LECTURE "A NEW NOTATION FOR ORGANIC CHEMISTRY."

The Lecture on "A New Notation for Organic Chemistry and its Application to Library and Indexing Problems," delivered by Dr. G. Malcolm Dyson at the London School of Hygiene and Tropical Medicine on October 21st, 1946, under the joint auspices of the Chemical Society, the Royal Institute of Chemistry, the Society of Chemical Industry, and the Bureau of Abstracts, has been published by the Royal Institute of Chemistry. The Institute is sending copies to all its Fellows, Associates, and Registered Students, and has also presented to the two Societies copies for distribution, free of charge, among those of their members who will not receive one from the Institute.

In order to avoid wastage through duplication of issues, Fellows who wish to receive a copy of this Lecture are asked to make application to the General Secretary.

Any member of one or more of the three Chartered Chemical Bodies who requires more than one copy may obtain additional copies at 2*s*. 6*d*. each, post free, on application by post to the Assistant Secretary, Royal Institute of Chemistry, 30, Russell Square, London, W.C.1.

PUBLICATIONS.

Copies of the *Journal* for 1943 and 1944, particularly for the months of January, September, October, November, and December 1943, and of the *Annual Reports* for 1941, 1942, and 1943 are urgently required for distribution to Fellows who lack these issues. Fellows who have these issues and who do not wish to retain them are invited to return them to the General Secretary who will refund cost of carriage.

PUBLICATIONS OF THE AMERICAN CHEMICAL SOCIETY.

	Price to Public.	Postage.
(1) *Journal of the American Chemical Society*	$8.50	$1.50
(2) *Chemical Abstracts*	$12.00	$2.40
(*a*) Industrial Edition (monthly) and Analytical Edition (monthly), sold only as a unit	$4.00	$2.25
(*b*) Chemical and Engineering News (semi-monthly)	$2.00	$0.60
(*a*) and (*b*) together	$6·00	$2.85

A discount of 10 per cent. is allowed on (1) and (2) when sent to same address and ordered at the same time. No discount on (3).

A special discount of 10 per cent. off all the above prices (exclusive of postage) is allowed to Fellows of the Chemical Society who are not Members of the American Chemical Society.

Fellows residing in Canada pay one-third postage rates, and for those residing in countries in the Pan-American Union and Spain there is no charge for postage.

Application should be made direct to the Secretary, American Chemical Society, 1155, Sixteenth Street, N.W., Washington, D.C., U.S.A.

Chemical Reviews (bi-monthly, 2 vols per year)	$4.00 per vol. $7.00 per year	postage $0.50 per vol.

Application should be made to the Williams and Wilkins Company, Mount Royal and Guilford Avenues, Baltimore, Md., U.S.A.

NOTE.—Permission to remit money abroad must be obtained through a Bank.

BRITISH STANDARDS INSTITUTION.

The following drafts of British Standards Specifications have been received for technical comment:

CH(FCC) 7793 Draft revised B.S. 553—Ethyl Acetate.
" " 7791 " " " 509—Acetone.
" " 7792 " " " 551—Normal Butyl Acetate.

These have been placed in the Library, and Fellows wishing to make technical comments are requested to do so before March 4th, 1947, to the British Standards Institution, 28, Victoria Street, Westminster, London, S.W.1.

MEETINGS OUTSIDE LONDON.

ABERDEEN.

"Some Developments in the General Methods of Organic Chemistry," by Professor F. S. Spring, D.Sc., Ph.D.

A Joint Meeting with local sections of the Royal Institute of Chemistry and the Society of Chemical Industry was held at Marischal College, Aberdeen, on November 29th, 1946.

Professor Spring indicated that the development of the microbalance and micro-analytical methods rendered possible the examination of substances, mainly of animal origin, which were available only in very small quantities.

After mentioning modern developments in distillation, crystallisation, and sublimation techniques, he emphasised the use of chromatography as a qualitative and quantitative analytical method.

Among reaction methods, he dealt particularly with the use of Raney nickel as a hydrogenating and desulphurising agent.

EDINBURGH.

"Some Developments in the General Methods of Organic Chemistry," by Professor F. S. Spring, D.Sc., Ph.D.

A Joint Meeting with the Local Sections of the Royal Institute of Chemistry and Society of Chemical Industry was held in the North British Station Hotel, Edinburgh, on November 21st, 1946, with Dr. E. G. V. Percival in the Chair. Professor Spring discussed methods of separating mixtures using chromatography, ion exchange resins, and counter-current distribution, and, on, the preparative side, the use of Raney nickel in hydrogenolysis of carbon–sulphate linkages. After a general discussion Dr. Neil Campbell proposed a vote of thanks which was carried with enthusiasm.

EIRE.

"Biochemical Microtechnique," by Dr. T. G. Brady.

A Joint Meeting with the local section of the Royal Institute of Chemistry was held in the Department of Chemistry, University College, Dublin, on November 20th, 1946, Professor T. S. Wheeler, Local Representative, being in the Chair. Dr. Brady described the use of various types of colorimetric, photometric, and electrometric apparatus and also discussed the microdiffusion technique which has been developed in recent years in Professor E. J. Conway's laboratories in University College, Dublin.

"Isotopes," by Professor Harold C. Urey, D.Sc., Ph.D.

A meeting of the Society was held in the Department of Chemistry, University College, Dublin, on December 9th, 1946; Professor T. S. Wheeler, Local Representative, presided; Professor

Urey read a most interesting paper to a large audience which included Mr. De Valera, the Prime Minister.

Professor Urey discussed the use of the mass spectrometer in a new method for following the course of gas reactions. He dealt in detail with the results obtained in a study of the thermal decomposition of dimethyl ether, and stressed the further possibilities of the new technique.

The vote of thanks, which was proposed by Mr. J. W. Parkes and seconded by Dr. T. E. Nevin, was passed with acclamation.

EXETER.

" Structural Inorganic Chemistry," by Professor W. Wardlaw, D.Sc., F.R.I.C.

A meeting was held at University College, on November 25th, 1946. The Lecturer's explanation of the way in which the law of constant proportions may break down owing to vacant lattice positions (as in Fe_s) excited much interest, as did his description of modern work on the structure of phosphorus pentachloride, of the carbonyls, and of the oxyacids. The importance of ionic radii and of polarisation in determining the lattice structures of inorganic compounds was also stressed. The picture left in the minds of the audience was that of a growing subject where, though much has been accomplished, a mass of important and intriguing problems await further investigation.

GLASGOW.

Ramsay Chemical Dinner.

The Society was represented by Sir Ian Heilbron, Vice-President, at the Ramsay Chemical Dinner, which was held in Marlborough House, Glasgow, on December 6th, 1946. Sir Steven Bilsland, Bt., as Chairman, proposed the Memory of Sir William Ramsay. " The Profession of Chemistry " was proposed by Sir Jack Drummond, and Dr. Lampitt replied. Other speakers on the Toast List were the Lord Provost of Glasgow (Sir Hector McNeill), Sir Ian Heilbron, Mr. H. Talbot, Dr. Cranston, and Dr. McDavid.

LEEDS.

" Isotopes," by Professor Harold C. Urey, D.Sc., Ph.D.

A meeting of the Society was held on December 16th, in the Chemistry Department, University of Leeds, with Professor R. W. Whytlaw-Gray, F.R.S., in the Chair. The Lecturer dealt with the application of the mass spectrometer to the investigation of gaseous reactions, and at the conclusion of the lecture replied to questions dealing with the operation of the apparatus. A vote of thanks proposed by Professor F. Challenger and seconded by Dr. W. Wild was carried with acclamation.

MANCHESTER.

Meeting for the reading of original papers.

A meeting of the Society was held on December 12th, in the Chemistry Department of the University. The following papers were read and discussed :

" A New Reaction of Thiocyanic Esters," by E. Hoggarth and W. A. Sexton.
" The Separation of Amylose and Amylopectin," by R. S. Higginbotham and G. A. Morrison.
" Peanut Araban," by Professor E. L. Hirst, F.R.S., and Dr. J. K. N. Jones.

NORTH WALES.

" Nitration in Sulphuric Acid Solution," by Dr. G. M. Bennett, M.A., F.R.I.C.

A Joint Meeting with the University College of North Wales Chemical Society and the University of Liverpool Chemical Society was held at University College of North Wales, Bangor, on November 21st, 1946, Mr. J. C. Charlton being in the Chair. The mutual action of nitric and sulphuric acids and the nature of the active nitrating agent were discussed. The mechanism of nitration of dinitrotoluene in a wide range of acid mixtures extending into fuming sulphuric acid was explained. Following a short discussion, Professor E. D. Hughes proposed and Mr. Mills seconded a vote of thanks which was heartily accorded by the large and appreciative audience.

SHEFFIELD.

" Chemistry in the Metallurgical Industries," by Dr. C. H. Desch, F.R.S.

A Joint Meeting with South Yorkshire section of the Royal Institute of Chemistry, the Sheffield Metallurgical Association, and the University Chemical Society, was held in the Chemistry Lecture Theatre of the University on November 21st, 1946, Dr. R. A. Mott being in the Chair. Dr. Desch, in the course of a very interesting review of some of the chemical aspects of the metallurgical industries, dealt particularly with corrosion and the methods of preparing polished surfaces by electrolytic means. The lecture, which was particularly lucid, and well illustrated by slides, was greatly appreciated by a large audience, and a vote of thanks to the Lecturer proposed by Dr. T. B. Smith and seconded by Mr. Bull (President of the Sheffield Metallurgical Association), was carried with acclamation.

LIST OF APPLICATIONS FOR FELLOWSHIP.

(*Fellows wishing to lodge objections to the election of these candidates should communicate with the Honorary Secretaries before January 31st, 1947. Such objections will be treated as confidential. The forms of application are displayed in the Library.*)

Andrews, John, B.Sc.Hons. (Lond.), F.R.I.C. British. Roselea, Marlborough Road, Glenageary, Co. Dublin. Research Chemist. *Signed by :* J. W. Tullo, A. G. G. Leonard, T. S. Wheeler.

***Armstrong, William Guy.** British. 92, Rowlands Road, Worthing. Student, University College, Southampton. *Signed by :* S. H. Harper, K. R. Webb, Ishbel G. M. Campbell.

Bamford, Harold Firth, M.A. (Cantab.), A.R.I.C. British. Messrs. John Mackintosh & Sons, Ltd. (Caley Branch), Chapelfield Works, Norwich. Works Chemist. *Signed by :* John W. Corran, A. G. Lipscomb, H. M. Mason.

***Beisman, Geoffrey Michael,** Inter.B.Sc. (Lond.). British. 1, Hurstwood Road, Golders Green, N.W. 11. Student. *Signed by :* Guy G. S. Dutton, A. G. Lidstone, E. de Barry Barnett.

Birch, Edmund John Huskisson, M.A. (Oxon). British. The Vicarage, Enstone, Oxford. Student, Oxford University. *Signed by :* F. E. King, S. G. P. Plant, D. Ll. Hammick.

Bonner, Trevor George, B.Sc.Hons. (Lond.), A.R.I.C. British. 66, Fordbridge Road, Ashford. Research Chemist. *Signed by :* Gwyn Williams, A. G. Foster, M. M. T. Plant.

Bowden, Kenneth, B.Sc. and Ph.D. (Lond.), F.R.I.C., D.I.C. British. The Square, Harewood, nr. Leeds. Assistant Lecturer, Leeds University. *Signed by :* H. Burton, E. Rothstein, P. A. Briscoe.

Bowen, Thomas John, M.A. (Oxon). British. Jesus College, Oxford. Student. *Signed by :* Richard Barrow, J. C. Smith, C. J. Danby.

***Bradley, Donald Charlton,** B.Sc.Hons. (Lond.). British. 50, Granville Avenue, Feltham. Research Worker at British Electrical and Allied Industries Research Association. *Signed by :* R. W. Pittman, D. J. G. Ives, R. E. Bowman.

***Brealey, Graham John.** British. 120, Penkhull New Road, Stoke-on-Trent. Student, Manchester University. *Signed by :* A. E. Gillam, F. Fairbrother, Colin Campbell.

***Briggs, Geoffrey William Desmond.** British. 21, The Crescent, Longbenton, Newcastle-upon-Tyne 7. Student. *Signed by :* Wesley Cocker, P. L. Robinson, G. R. Clemo.

***Briscoe, James McKenzie,** B.Sc.Hons. (Lond.). British. 18, Merrivale, Southgate, N. 14. Development Chemist with Vandervell Products Ltd., Acton. *Signed by :* Henry Terry, C. K. Ingold, C. A. Bunton.

***Brown, Peter,** Inter.B.Sc. British. 17, Elm Grove, North Harrow. Assistant, Chemical Research Department, Glaxo Laboratories. *Signed by :* David O. Holland, L. F. J. Parker, J. Elks.

Bull, Alfred John Urbane, B.Sc. (Lond.), A.R.I.C. British. P.O. Box 1862, Nairobi, Kenya. Chief Chemist, East African Industrial Management Board, Nairobi, Kenya. *Signed by :* H. B. Stent, R. Leslie Collett, H. J. T. Ellingham.

Button, Donald Frank Harrington, A.R.C.S., F.R.I.C. British. 83, Elm Bank Gardens, Barnes, S.W. 13. Public Analyst, Borough of Southwark. *Signed by :* Cyril Dickinson, H. Amphlett Williams, R. G. Minors.

***Caine, Charles Vernon,** B.A. (Oxon). British. 36, Briscoe Drive, Moreton, Wirral. Research Chemist. *Signed by :* D. Ll. Hammick, G. D. Parkes, F. M. Brewer.

***Calderwood, John Alexander,** B.Sc. (Glas.), A.R.I.C. British. 264, Moss Lane East, Manchester, 14. Production Chemist. *Signed by :* I. E. Balaban, R. Mather, H. Stromberg.

Callow, Ronald James, B.Sc. (L'pool), A.R.I.C. British. 37, Wallasey Road, Wallasey. Research Chemist, Pilkington Bros., Ltd., St. Helens. *Signed by :* R. A. Sutton, H. Cole, L. Woods.

***Caunt, Anthony David.** British. 96, Bedale Road, Sherwood, Nottingham. Student, Oxford University. *Signed by :* A. S. Russell, C. N. Hinshelwood, H. W. Thompson.

Chatfield, Herbert Walter, B.Sc. and Ph.D. (Lond.), A.M.I.Chem.E., F.R.I.C. British. 23, Alington Grove, Wallington. Consulting Chemist. *Signed by :* H. G. Rains, Harry H. Topper, B. Dudley Sully.

Choate, Matthew Francis Stephen, B.Sc. (Dunelm), A.R.I.C. British. 7, Manchester Road, Pendlebury, Manchester. Technical Chemist. *Signed by :* Percy Chorley, P. Brightman, E. H. Rodd.

Cohen, Nathan. British. 11, Ashfield Road, Ellesmere Port, Wirral. Analytical Chemist. *Signed by :* A. French, G. Rose, W. T. Sedley.

Coleman, Richard Norton, B.Sc. and Ph.D. (Lond.), F.R.I.C. British. 28, Coten End, Warwick. Chemist. *Signed by :* C. C. Moss, K. R. Webb, E. Cartmell.

Collett, Sam, Ph.C. British. 126, New Queens Road, Sudbury. Analytical Chemist, Messrs. Stafford Allen & Sons, Ltd., Long Melford, Suffolk. *Signed by :* Wm. Mitchell, L. W. Ragg, H. M. Perry.

***Cooke, Alma Monica,** Inter.B.Sc. (Lond.). British. 292, Clarendon Park Road, Leicester. Pathological Laboratory Technician. *Signed by :* A. B. Meggy, L. Hunter, J. S. Whitehurst.

Cooper, Arthur Thomas, B.Sc. and Ph.D. (Lond.), A.R.I.C. British. The Yews, Bedingfield, Diss. Chemical Engineer. *Signed by :* R. Leslie Collett, G. Roche Lynch, H. J. T. Ellingham.

***Crosbie, George William,** B.Sc.Hons. (Glas.). British. 373, Castlemilk Road, Croftfoot, Glasgow, S. 4. Student. *Signed by :* S. Horwood Tucker, C. Buchanan, T. S. Stevens.

***Davis, John Burton.** British. 64, Bennetts Way, Shirley, Croydon. Student, Queen Mary College, London. *Signed by :* V. Petrow, C. M. French, H. D. K. Drew.

***D'Eye, Royston Walter Mastin,** B.Sc. (Lond.). British. 35, Linkside, Finchley, N. 12. Post-graduate student. *Signed by :* W. Gerrard, H. J. S. King, D. H. Richardson.

***Downie, Thomas Cochrane.** British. 33, Elizabeth Street, Ibrox, Glasgow, S.W. 1. At present in H.M. Forces. *Signed by :* Charles Buchanan, S. Horwood Tucker, J. W. Cook.

Dyett, Edward James, B.Sc. (Lond.). British. 111, Leighton Gardens, Kensal Rise, N.W. 10. Analytical Chemist. *Signed by :* Leslie H. Lampitt, E. B. Hughes, A. J. Goodall.

Edwards, Lawrence John, B.Sc. (Lond.), F.R.I.C. British. 78, Redcliffe Square, South Kensington, S.W. 7. Research Chemist. *Signed by :* Michael F. Carroll, John P. Young, C. W. Cornwell.

Emling, Rev. Bertin Leo, B.A. (St. Vincent), M.A. (John Hopkins), Ph.D. (Notre Dame). American. St. Vincent, Archabbey, Latrobe, Pennsylvania. Associate Professor of Organic Chemistry, St. Vincent College. *Signed by :* Joseph S. McGrath, Christopher L. Wilson, F. E. Cislak.

Evans, Arthur Owen. British. 85, Penarth Road, Cardiff. Chemist, Chemical Inspection Department, Ministry of Supply. *Signed by :* N. G. Perkins, W. D. Williams, G. Davies.

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PAPERS RECEIVED

List of papers received between November 21st, 1946, and December 16th, 1946. (This list does not include the titles of papers which have been read at a Scientific Meeting or which have appeared in the *Journal.*)

"The kinetics of aromatic halogen substitution. Part III. Iodination by iodine chloride." By L. J. Lambourne and P. W. Robertson.

"Oxidation of carbohydrates by the periodate ion." By T. G. Halsall, E. L. Hirst, and J. K. N. Jones.

"Synthesis of ω-aminoalkyl cyanides." By A. A. Goldberg and W. Kelly.

"Homosulphanilamides. Synthesis of the 2-ω-aminoalkyl and 2-ω-sulphanilamidoalkyl derivatives of thiazole and pyrimidine." By A. A. Goldberg and W. Kelly.

"The preparation and ultra-violet light absorption of some substituted phenylpropenyl- and styrylmethyl-carbinols, and 1-phenylbutadienes." By E. A. Braude, E. R. H. Jones, and E. S. Stern.

"The kinetics of anionotropic rearrangement. Part VI. The effects of methyl, methoxy-, and halogen substituents attached to a phenyl group." By E. A. Braude and E. S. Stern.

"Studies in light absorption. Part IV. Nitro-olefins." By E. A. BRAUDE, E. R. H. JONES, and G. ROSE.
"Syntheses in the thiopyran series. Part I. Tetrahydro-derivatives." By R. F. NAYLOR.
"Potassium fluoaluminates." By F. A. PAINE and J. PEARSON.
"Amidines. Part VII. Preparation of amidines from cyanides, aluminium chloride, and ammonia or amines." By P. OXLEY, M. W. PARTRIDGE, and W. F. SHORT.
"Unsaturated lactones: some esters of aconic and coumalic acids." By N. R. CAMPBELL and J. H. HUNT.
"Pyrazine derivatives. Part III. Conversion of diketopiperazines into pyrazine derivatives. Synthesis of 2-hydroxy-3 : 6-di*sec.*-butylpyrazine from *iso*leucine." By R. A. BAXTER and F. S. SPRING.
"Pyrazine derivatives. Part IV. Pyrazine-*N*-oxides and their conversion into chloropyrazines." By G. T. NEWBOLD and F. S. SPRING.
"Nitration in sulphuric acid. Part V. Nitration of 2 : 4-dinitrotoluene in a two-phase system." By G. M. BENNETT, J. C. D. BRAND, D. M. JAMES, T. G. SAUNDERS, and G. WILLIAMS.
"β-*cyclo*Propionitriles. Part I. A general synthesis and conversion into pyrrole dyes." By E. B. KNOTT.
"β-*cyclo*Propionitriles. Part II. Conversion into bis-2-(5-cyclylpyrrole)azamethin salts." By E. B. KNOTT.
"Pectic substances. Part VI. The structure of the araban from *Arachis hypogea*." By E. L. HIRST and J. K. N. JONES.
"1 : 9-Diaminoacridine." By (MISS) E. R. KLEIN and F. N. LAHEY.
"The reactions of *N*-benzenesulphonylben*zis*othiazolone with aromatic amines." By (the late) E. W. MCCLELLAND and R. H. PETERS.
"Application of thallium compounds in organic chemistry. Part XI." By R. C. MENZIES.
"Trinitromethane derivatives. Part I. The preparation of *p*-nitrobenzyltrinitromethane." By W. S. REICH.
"Trinitromethane derivatives. Part II. The preparation of 2 : 4 : 6-trinitrobenzyltrinitromethane." By W. S. REICH and G. G. ROSE.
"Trinitromethane derivatives. Part III. The preparation of some polytrinitromethyl derivatives of xylene and of mesitylene." By W. S. REICH and W. WILSON.
"Pectic substances. Part VII. The constitution of the galactan from *Lupinus albus*." By E. L. HIRST, J. K. N. JONES, and (MRS.) W. O. WALDER.
"The reaction of benzoic anhydride with aromatic compounds catalysed by boron trifluoride." By D. L. HAMMICK and P. H. GIVEN.
"A note on the mechanism of the tautomeric change of 5-hydroxy-1 : 2 : 3-triazole-4-carboxylic esters into aliphatic diazo-compounds." By B. R. BROWN and D. L. HAMMICK.
"The reduction of oxides by hydrogen and carbon monoxide." By W. E. GARNER.
"The heats of adsorption of gases on manganouschromic oxide at room temperatures." By T. WARD.
"The photochemical polymerisation of vinyl acetate vapour." By H. W. MELVILLE and R. F. TUCKETT.
"Radical sensitised polymerisation of vinyl acetate vapour." By H. W. MELVILLE and R. F. TUCKETT.
"Contributions to the chemistry of synthetic antimalarials. Part IV. Hydrazine hydrolysis and radical exchange reactions of *N*-substituted phthalimides in relation to the constitution of the antimalarial R. 63." By H. J. BARBER and W. R. WRAGG.
"Pectic substances. Part V. The molecular structure of strawberry and apple pectic acids." By G. H. BEAVAN and J. K. N. JONES.
"Cyanomaclurin: experiments on its synthesis." By E. L. FONSEKA.
"The constitution of copaene." By L. H. BRIGGS and W. I. TAYLOR.
"An improvement in the preparation of *cyclo*pentanone-2-ethylcarboxylate and some of its new condensation products with aromatic amines." By H. C. BARANY and M. PIANKA.
"Some derivatives of D-galacturonic acid." By J. K. N. JONES and M. STACEY.
"Synthesis of some derivatives of D- and L-arabinose." By J. K. N. JONES, P. W. KENT, and M. STACEY.
"The quantitative separation of methylated sugars." By F. BROWN and J. K. N. JONES.
"Qualitative semimicro-analysis with reference to Noyes and Bray's system. Partial analysis of the combined nickel, zirconium, and rare-earth groups." By CHRISTINA C. MILLER.

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